

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME V
NUMBER 10

DECEMBER, 1897

WHOLE
NUMBER 50

REPORT OF THE NEW ENGLAND ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS

THE twelfth annual meeting of the New England Association of Colleges and Preparatory Schools was held in Isaac Rich Hall, of the Boston University School of Law, Ashburton Place, Boston, on Friday and Saturday, October 8 and 9, 1897. The attendance was large, except during the earlier portion of the business meeting on the second day, and the heartiest interest was manifested.

FRIDAY AFTERNOON

The association was called to order at 2:45 by the president, Dr. Cecil F. P. Bancroft, Principal of the Phillips Academy, Andover, who occupied the chair throughout the meetings. The secretary was Ray Greene Huling, Head Master of the Cambridge English High School.

On motion the president was authorized to appoint a committee on nominations, to present a list of officers for the ensuing year. Dr. Robert P. Keep, Professor Charles E. Fay, and Mr. D. W. Hoyt were thus appointed.

The association at once proceeded to the consideration of the subjects announced for the afternoon. The first address was given by Dr. Fred W. Atkinson, Principal of the Springfield High School, on

THE CAPACITIES OF SECONDARY SCHOOL STUDENTS

In one of the initial numbers of the SCHOOL REVIEW—that magazine which the secondary-school teacher owes to himself to read—the editor expressed himself as follows: “In determining the ideal curriculum for the secondary schools we must have our eye, not upon the conventional college entrance requirement, but, on the one hand, upon the entire circle of modern culture, and, on the other hand, upon the capacities and the needs of pupils under eighteen years of age.” True to its name and character, however, this association, during the twelve years of its existence, has concentrated its attention mainly upon the “conventional college entrance requirement.” As one result the gap between the preparatory school and the higher institution has been lessened. Harmony of feeling among teachers in school and teachers in college has been brought about. But, as shown by a study of the proceedings of this body, there still seems to be no general unanimity of opinion as to principle of choice in the selection of studies which shall serve as a measure to determine fitness for admission to college. I venture to assert that the vital questions of secondary instruction today are not, for example, how much algebra shall be exacted of the college preparatory pupil, or how many pages of this or that Latin author translated, or how many English books *read*, and how many *studied*, but, do college requirements tend to impoverish secondary education and are they based on a proper knowledge of the limitations and capacities of secondary pupils; are the present demands of the secondary schools too great for the physical and mental forces of any considerable number of pupils, and, is secondary instruction adapted to the needs and interests of the individual? As some one has said, “College requirements are too well planned, that is, planned by specialists. Every specialist has brought his stone to the edifice and in admiring the fine structure we have forgotten the condition of those who are to live in it.” I plead this afternoon for a deliberate change in the point of view—from that of the specialist to that of the student as an individual. I consented to present this paper, in spite of the

fact that I knew so little of the capacities of those young persons with whom I am brought in contact daily, and rather because I had a faint hope that I might succeed in focusing attention for a moment upon the physical and mental well being of the high school and academy pupil quite regardless of his destination.

The period of school life from the twelfth to the eighteenth year is in many respects an extremely critical one. The rapid physical growth, the quick changing and yet steadily developing form of mind, the intensity of the emotions, and, not to name other peculiarities, the sensitiveness to sympathy—all these conditions physical and mental make the period of adolescence singularly liable to disorders of a functional or even of an organic kind. Physiologists and psychologists, both, tell us that over-development of a physical or a mental capacity and the arrested development of another or others may happen very easily at this time unless care be taken to preserve a correct balance. Therefore the teacher needs to know, particularly, the physiology and psychology of adolescence, in order that he may not suffer the healthy and natural development of the physical and psychical natures of his pupils to be impaired.

It would be a palpable truism to state that pupils differ very much as to physical capacity, and hence in their ability to stand up under the tasks which the school imposes upon them, were it not that no practical distinction was made between one learner and another in this respect. It is one of the faults of some of our public high schools, that the *minimum* amount of prepared recitation work required of pupils of entirely different physical power is as high as eighteen and twenty hours a week, exclusive of drawing, music, and other unprepared work. The rule of the Newton school board which requires every pupil to have at least twelve prepared exercises a week—and which allows, of course, the gifted to take as many electives as they please—would appear to be manifestly fairer. Springfield's minimum requirement is fifteen exercises weekly, and, I may say in passing, the average number of recitations per pupil is between eighteen and nineteen. In the opinion of many principals, only the healthier

half of a school can carry twenty hours of prepared recitations a week, exclusive of the two or three hours of "extras," and make it possible for health and education to progress side by side, and to develop lustily together.

The greatest dangers to health, in the public mind, at least, are over-exertion and over-anxiety. It is not uncommon to hear the following and similar expressions: "I should think the high-school teachers were trying to kill my boy," "If I wanted to ruin my daughter's health, I would send her to the high school." "My daughter was graduated from the high school with honors, but I had to have her rest a year before allowing her to go to college." Sometimes the stimulus of competition is too great, and there is apt to be more or less worry about examinations. Solely in the behalf of good school hygiene, I wish in marking pupils that the custom of using "passed" and "not passed" might be adopted by every high school. The question whether there is overpressure is a hard one to answer. Each school with its special local conditions, needs to study the problem systematically and at frequent intervals. Nor can any definite answer be reached without including in the investigation an intimate knowledge of the outside interests of the pupil. Who knows, without such a comprehensive research, in just what proportion the home and the school are responsible for ill-health? If it were only in this matter of health alone, it would be of the highest importance that the parents and the teachers worked together. As a prominent thinker says, "A ton of knowledge at the cost of an ounce of health, which is the most ancient and precious form of wealth and worth, costs more than its value." That a pupil does not break down proves nothing. It should be the teacher's business as far as it is within his power, to see, not that the school in nowise injures a pupil's health, but that it leaves him in better health with a stronger constitution. There are special individuals who need constant watching. To name only one, there is the sensitively conscientious girl.

The whole subject of headaches in schools has been more or less investigated in England. About 10 per cent., to state it

roughly, are prone to headaches. Pupils of a nervous temperament are especially subject to them. Sir Richard Owen is quoted as saying, "Children have no business with headaches at all, and if you find that these occur frequently in any school, you may depend on it there is something wrong there."

A headache is very often a sign of fatigue. The subject of fatigue has already received considerable attention. The time will come when each pupil's fatigue curve along with his reaction-time and other similar data will be recorded. The signs and effects of incipient fatigue are easily recognized, and the tests are fairly simple and accurate. In the near future, there should be undertaken something of a general investigation of this field from the point of view of the secondary teacher in search of a rational basis for arranging the studies of the daily programme, the time and length of intermissions, and vacations, the length of recitation periods, and for determining the amount of work which each individual may safely carry.

Ocular fatigue owing to defective eyesight, is, if we are to believe the oculists, more common than we teachers are aware of. The form of headache which accompanies it, is easily remedied by fitting the pupil to proper glasses. The tests for eyesight, if made in time may prevent serious evil. Injustice, unconsciously, is often done to pupils whose sight is defective. The same is particularly true in case of defective hearing.

The whole subject of the hearing of school boys and school girls requires a paper by itself by a specialist of extended practice. There is, as nearly every aurist will tell you, much defective hearing among boys and girls, which might be greatly aided and could be prevented if simple tests were made in the school. In schools both here and abroad, pupils have been examined, and 20 to 25 per cent. have been found to have defective hearing. Defective hearing and frontal headaches, indicating a catarrhal condition often go together.

The more one looks into this question of individual differences in natural physical powers, the larger does it become. And if along with it the attention is turned toward all the artifi-

cial conditions of school life, the problem becomes a very complex one. Take, for instance, the subject of food, which deserves a chapter by itself. As we all know, boys and girls are apt to neglect their morning meal. They tend to eat too rapidly at all times, and do not masticate their food thoroughly—do not, as Gladstone is said to do, chew each mouthful thirty-nine times. The period of growth requires, dietists inform us, a great abundance of plain and simple food; for growth must be conceived of as *labor*. The luncheon counter, provided its bill of fare is in accordance with hygienic principles, should be a feature of every high school, as it is now of the best schools.

Then there is sleep which also should receive attention. In respect to this, and to other points regarding health, the academies have a great advantage over the high schools. Yet what inquiries are we high-school teachers making of the parents concerning duration and soundness of sleep? In relation to all the physical changes now taking place, what measurements are being made, what records kept? How many of us here, I wonder, are watching over the physical development of a single one of our pupils, ready to give timely warning if it does not proceed normally. If the pupil sleeps eight hours, which at the very least he should, and limits himself to eight hours of school and home study, there remain eight hours for recreation and exercise, yet, if I may be permitted to ask, how many of us know how a single pupil spends this time?

Liability to disease is closely related to a weakened or to an accelerated growth. The whole subject of school-bred diseases is too much neglected by teachers, being considered by them entirely out of their province. It is a hopeful sign that at the next meeting of the Massachusetts Teachers' Association this is to be one of the subjects on the programme. Personally, I wish that we might have, as well, a general discussion, based on a series of investigations, of that broader subject,—school-life in relation to growth and health. Everything has been done on the basis of supposed physical possibilities of an average student. In the future, it may not be impossible to base educa-

tional procedure more on the known physical capacities of the individual student.

Also, as to the intellectual well-being of the pupil, is it not true, that, if the pupil has been considered, at all, as of primary importance, the dominating principle in determining, not only the methods but the very choice of subject matter itself, has been the supposed mental capacity of the *average* student? Differentiation among pupils is readily enough granted, but do we not fail to allow for differences in the capability of learners? Are not the same books used, the same requirements exacted, the same interests and aptitudes presumed, and the same standards of judgment applied? One is reminded of what Pater said when certain reformers in England were endeavoring to bring about in Oxford and Cambridge a greater degree of uniformity in the courses pursued. "I do not know," he said, "what your object is. At present the undergraduate is a child of nature; he grows up like a wild rose in a country lane; you want to turn him into a turnip, rob him of all grace, and plant him out in rows." Against similar treatment which diverse pupils get at school all true educators have struggled, but there has been a vagueness as to what were the mental variations shown by different pupils. When these are known, there can be a more definite idea of what variations of treatment are called for.

It is very difficult to determine mental capacity; great skill and care are required to detect the peculiar powers and faculties of the individual pupil. Granted that it is the duty of the teacher to undertake this momentous task, education becomes complicated and difficult. Would there not be, however, for the teacher, in this larger view of education an inspiration? If the inner life of some of our pupils could be known, and their physical and mental development observed and recorded, how many so-called dull pupils would become interesting, and the teaching of them, inspiring. Often the consciousness of talents and abilities for some form of intellectual activity seems to have been concealed from their possessor until some teacher wiser than the rest has brought help to their development. In

many instances, the intellectual birth of a boy or girl may be traceable to the consciousness of the power to do one thing well. There is joy in teaching when one's teaching strikes home—meets with a spontaneous response in the mind of the pupil. Froebel, Pestalozzi, Arnold and the other great teachers of the world have been successful in that they have come close to the hearts and the minds of their pupils. If we ever become a profession it will be by the development of a psychological intelligence; in other words, by the evolution of an intuitive power which will lay bare the mind of the pupil. Then the success of a teacher will be judged by his ability to diagnose individual mental conditions and prescribe intelligently and sympathetically variations of treatment. When this good time comes, and it is surely coming, although not in a day, we will not have so many mental abortions—minds failing to attain to maturity because unduly pressed and rubbed out, or flattened down. I venture to say that never will secondary-school teaching take on to itself its true dignity until it recognizes the fact that the prescription of the same mental food for each and every pupil may bring about not alone uniformity but deformity. In the high schools, a decrease in the number of prescribed studies with a corresponding increase of alternatives and electives, and on the part of the colleges and technical schools, the adoption of a more liberal policy whereby there may be many roads to the higher educational institutions, will give greater opportunity of adapting the means of instruction to the needs and interests of the individual. Moreover, change in this direction will assure to the secondary teacher his own individuality.

"Child study" needs to be extended to the high school. Boyhood and girlhood has its divinity just the same as childhood, and should be treated just as reverently. A study of the physical facts of adolescence, somewhat as hinted at earlier, should throw light also on the difficult problem of acquiring direct insight into mental conditions. In support of this view, we have but to remember, every psychic process has its correlative in a physiological process. Another, and a more direct

way, to get at difference of intellectual capacity and turn of mind in different learners, is by giving attention to the three aspects of feeling,—temperament, motive and interest.

Mental processes and physical activity are affected, as we all know, by temperament. There will be found in every school types of markedly different temperaments. Individual temperament during this period is liable to rapid changes—sometimes for the better, sometimes for the worse. It is a fair question to ask of the psychologist, how much should our treatment of pupils be modified on account of temperament? To the psychologist we must look for guidance and counsel in any attempt to arrange a plan of pupil study or in any application of the results obtained after the plan has been put into practice.

If through various sources we obtain answers to such questions as, why does this pupil attend school, why does he neglect this or that lesson or why does he study them all carefully, and why does he take mechanical drawing, etc., we shall have herein revealed something of the pupil's purpose of mind. In a similar way, the subject of interests should be approached. It is only as we have a full and an accurate knowledge of a pupil's motives and interests that we can mold and direct them towards worthy objects. I have not the time to outline fully what lines of psychological investigation may be undertaken, nor is it necessary. The paper which follows will, I know, be rich in suggestions. There is also that unique educational magazine, the *Pedagogical Seminary*. For anyone who would be an intelligent and sympathetic observer and molder of boyhood and girlhood, I know of no richer source of knowledge and inspiration. Its reading would be rather unpalatable for one who believes that fitting for college is an end in itself. There are, now and then, articles in the *Educational Review* reporting results of tests of the senses and the various mental faculties. Professor Jastrow¹ contributes, "A statistical study of memory and association," and Professor Cattell,² "Tests of the senses and faculties." Both of these studies arouse thought and no teacher can afford to miss reading

¹ *Educ. Rev.*, Vol. II, 442.

² *Educ. Rev.*, Vol. V, 257.

them, but they are written, as are most of the magazine articles on this general subject, from the point of view of the experimental psychologist. The method used is to study a particular form of mental activity in many pupils and tabulate results. It is the only legitimate method of him who would contribute to the advancement of psychology. The method for the teacher to use, with the light which the man of mental science has given him, is to observe many mental processes in one particular pupil with a view to that pupil's advancement. The *Inland Educator*, in its issues of August and December 1895, and April 1896, presented an illuminating contribution by Professor Baldwin on "Differences in pupils from the teacher's point of view." The text-books on psychology, written ostensibly for teachers, are weak in their practical applications for the schoolroom.

Pupil study is a field of unlimited possibilities practically untouched as yet. It is pertinent to ask, do we know what inquiries arise in the minds of our pupils? Do we ever supply subject matter to answer the questions we think the adolescent ought to ask, or prescribe, to give a concrete case, books in English we think he should be interested in? It may be, what is the adult's intellectual meat is the young person's intellectual poison. The principal factors in intellectual growth are attention, memory and apperception; and it is especially important that these be studied, and in connection with the feelings which so largely direct them. Neither must individual habits be neglected. As deserving of the first place is the character of the pupil—at home, among friends, and in school. The bare mention, in this connection, of the word *environment* with all that it implies—home, church, society, etc., opens up a vast field of investigation. However, it is a form of research which deserves consideration, if we would complete the picture of the child's individuality. Such studies in this direction, as have already been reported, testify to the fact that as a result discipline becomes more charitable and personal encouragement more common.

In what I have attempted to say I would not be misunderstood.

I believe there was much good in the so-called "old" education which has been lost sight of. Little was given and that little was thoroughly digested. In the district school, teachers came close in touch with the pupil and with his environment. On the other hand, there is a tendency in the so-called "new" education to remove all difficulties from the way of the pupil. I would, rather, arrange the difficulties methodically and adapt them gradually to the needs of the individual. In furthering the accomplishment of a complete personality, I would not sacrifice one jot to superficiality. If anyone thinks for a moment I wish to pamper pupils, he entirely misunderstands my purpose. I plead for no "watered" courses of study nor, on the other hand, for that educational fetich, the so-called "harmonious development of all the faculties." I would substitute flexibility for rigidity in our courses of study, concentrate mental effort rather than scatter it, develop peculiar capacities rather than make up peculiar deficiencies, individualize instruction rather than mass it.

A prominent psychologist says, "while perhaps the greatest waste of time in America occurs in the lower grades, the greatest waste of energy occurs during the period of high school and college education. Great interests are not utilized, and the adolescent need of activity is often ignored." In France an account has lately been published of a class of a dozen average boys who were taken through the entire six years' course of the Lycée in less than three years, and without extra hours of work, by more efficient and well adapted teaching as applied to groups and to individuals.

That there might be some concrete embodiment, even if only in a very rough way, of a few of the educational principles which I have attempted to emphasize anew, I have had distributed copies of a simple and tentative plan of pupil study.¹ The plan grew out of the necessity of dealing with the individual pupil when he enters the high school—of ascertaining his previous experiences, and his natural inclinations and endowments. The purpose, at first, was simply to unify the work of the high school

¹ This plan was printed in the *SCHOOL REVIEW* for September 1897.

and the lower grades. There seems to be a loss of power at the point of change from the grammar schools. Often this unsettled period is enough to leave an unfortunate effect upon the whole high-school course of a pupil, when a little sympathetic care at the outset would have produced a very different result.

The plan will undergo still further revision as it is put into practice. Its purpose, the sources of information and the spirit in which it is undertaken are given on the printed copies, and I need not dwell upon them. The grammar-school principals have shown appreciation of the proposed plan. Conferences with the parents will soon be arranged for. The pupils themselves have already furnished interesting and suggestive data on reading. Each high-school teacher will have a small number of the pupils to look after. The data from the grammar schools will not be received until the last of October. If anyone here objects strenuously to confronting a pupil with his grammar-school record, I can but repeat, the whole spirit of the plan is in the interests of the pupil. It goes without saying, constant vigilance will be used to see that the pupil does not suffer from the system. If the high-school teachers were indifferent and took the reports of the other teachers without further inquiry or if they had not coöperated cordially in its formation, there might be danger from this source, but it has been guarded against as carefully as possible. Local conditions have had much to do in shaping this scheme of pupil study. Criticism and suggestions are asked for. Of those persons here, who see many objections to such a plan, I ask, do all the objections outweigh the advantages which a careful administration of the scheme by teachers distinctly conscious of its limitations and the responsibilities imposed on them, may ensure?

The second address was made by Professor William H. Burnham, of Clark University, on

SUGGESTIONS FROM THE PSYCHOLOGY OF ADOLESCENCE

It must, I suppose, be admitted that at the present time there is a somewhat widespread dissatisfaction with the results of

secondary and collegiate education. Such dissatisfaction is not confined to outsiders. A distinguished college president, who has had long and successful experience, laments in a recent article "the evils of ignorance, feeble logic, and moral apathy" among college students.¹ "There is no longer," he declares, "any such mental output from the colleges as in the days when Dartmouth gave the world Daniel Webster and Bowdoin, Longfellow and Hawthorne. Pupils' minds do not grow as they should under processes of education. The trouble is that the whole mental training has been defective." As regards the secondary schools, while the complaint is often made that training in the mother-tongue and in the classics is defective, the scientific instruction has again and again been declared worse than nothing. The exclamation of a distinguished professor in a scientific school is typical: "I should rather my students had never heard the name entomology than to come with the preparation they have!"

Similar complaints are heard in Germany and other countries. Not to quote the radicals, conservative men like Helmholtz and Virchow have criticised the results of education in the higher schools. At the famous Berlin Conference of 1890, Helmholtz said that the German graduates were usually worse than the American students in their inability to use the mother-tongue; and Virchow complained that the number of medical students who can distinguish color is very small. And, as they cannot see, so they cannot feel, they cannot hear, they cannot smell. If he took one of his servants, he could get a better judgment in regard to colors than from many educated people. And the same is true in regard to the determination of form, and the like. The ability to observe that the natural man possesses is, he declares, weakened by the present kind of instruction. The graduates of the higher schools go out equipped with diplomas. The task of the school should be to produce, not diplomas, but capable men. "Sie machen Zeugnisse aber keine Menschen."

The causes most frequently assigned for these evils are the

¹ Andrews, Modern College Education, *Cosmopolitan*, September 1897.

classical studies in the curriculum and the classical methods adopted. One of the writers already quoted expresses this common view: "These ill features of college education," he says, "are closely connected with those classical studies which, in most of our colleges, still remain the center and pivot of the curriculum."

So strong has been this popular opinion that even in Germany, the stronghold of classical culture, considerable modifications have been made in the curriculum of the *Gymnasien* to the detriment of the classical course. Norway has gone farthest, and by a recent law takes action revolutionary and unheard of. The ancient languages are entirely excluded from the curriculum of the higher schools. In other European countries the classical curriculum has been more or less curtailed.

That the evils complained of exist and that there is need of modifying the old curriculum I do not deny. I doubt, however, whether the critics cited have rightly divined the cause. I have no intention of raising the perennial question of the relative merits of classical and scientific education; but it is worth while perhaps to note that whenever the results of secondary and collegiate education are unsatisfactory, we forthwith attempt to change the subject matter of the curriculum or in some way to tinker the educational machinery. The cause of such evils usually lies deeper. In the present case the matter is very complex. You would rightly be suspicious of any offhand solution. But without attempting to analyze the problem, it may be possible to point out the direction in which to look for the root of the trouble. My thought is very simple and may be summed up in one general statement. We have devoted attention to the content of culture and to the scholastic product to the neglect of the object of culture—the growing youth.

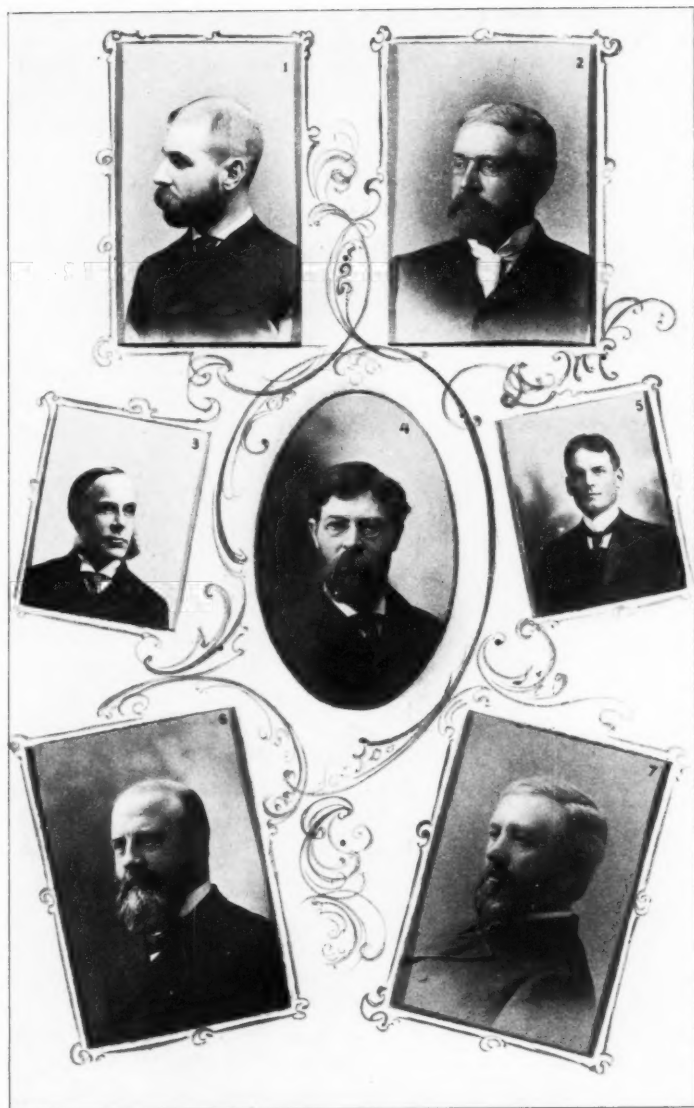
From the secondary school the complaint comes to me that the teachers cannot give due attention to the needs of the pupils because of the necessity laid upon them of turning out certain scholastic products that shall be marketable at the door of the college. In the colleges, according to the testimony of Presi-

dent Andrews, the neglect of the pupils is still worse. "A great many teachers," he says, "nowadays utterly repudiate their calling as creators of manhood, and are anxious solely how they may be faithful to the subjects which they expound. They will compass heaven and earth to excogitate a system, compose a book, or prepare a course of lectures, but do nothing toward the infinitely more needful and precious task of building up in character the human beings who face them each day in the class."

This testimony, together with the results of observation, seems to justify the conclusion that for some reason there is a tendency in secondary and collegiate education to give attention unduly to the content of culture and the scholastic product and to neglect the object of culture—the growing boy or girl. It is true that in a certain sense it is a narrow philosophy which considers merely the needs of individual pupils; for the pupil is a member of an organism and the interests of this organism, the school, and also of the larger organism of which he will soon be a more active member—society, including the needs of civilization as represented by the institutions of society, the home, the church, the state, must be considered. This involves too, regard for the content of culture as one of the supreme interests of society. But while it is dangerous to confine one's self to a single educational principle, however true, it is sometimes well to go back of academic institutions, curricula, and traditions, and to consider directly the needs of the pupil himself as a growing and developing organism.

The secondary teacher has the pupil at perhaps the most important epoch in development—the period of puberty and adolescence. Every secondary teacher recognizes the importance of this period. But certain recent investigations have especially emphasized the significance of it and indicate that it represents the focal point in education. Let me allude to some of these studies very briefly, not with the expectation of showing their results, but rather with the hope of suggesting how the object of secondary education—the growing boy or girl, looks from the point of view of psychology and anthropology. Even

in the matter of physical growth the advent of adolescence is marked by noteworthy phenomena. Bowditch, Key, Erismann, and many other investigators, from the study of growth rates in many thousand children, have found in case of boys somewhere from the thirteenth to the sixteenth year of life a decided acceleration in the rate of growth, and a similar acceleration in the growth of girls beginning one or two years earlier. From Key's study of 18,000 Swedish children it appeared that this period of maximum rate of growth is a period of maximum power to resist chronic diseases. And Dr. Hartwell's study of death rates among Boston school children also indicates that the years of rapid growth are years of great vitality. Besides the other obvious physical changes there is a marked change in the relation of the heart to the arteries causing greatly increased blood-pressure as adolescence approaches, also changes in the skeletal structure, in the features, in the blood, and, most important of all, in the brain, although nobody yet knows the character of these last. Clouston has found many nervous diseases incident to this period and yet likely to be outgrown with proper treatment. The burden of his book—*Neuroses of Development*—is the danger of premature and unrelated developments. Investigations by Kellar, Griesbach, Kraepelin, and others have had to do with the adolescent's susceptibility to fatigue in intellectual work. Careful studies have been made by various methods with the ergograph, the æsthesiometer, and in other ways; and although the results thus far obtained have not solved the problems of the hygiene of study, they have emphasized many of the teachings of common sense; and among distinct contributions they have shown that there are definite physical concomitants of nervous fatigue that can be tested experimentally, that central fatigue affects the whole psycho-physic mechanism, that great individual differences exist in respect to fatigue. Kellar has reported in the *Biologisches Centralblatt* the results of tests on some thirty gymnasium students by means of the ergograph, which show that there are well marked types as regards such susceptibility to fatigue. And it has been seriously



1. HARLAN P. AMEN. 2. JOHN H. WRIGHT.
 3. WILLIAM GALLAGHER. 4. REV. DEWITT HYDE. 5. FRED W. ATKINSON.
 6. JOHN TETLOW. 7. WM. C. COLLAR.

urged in Germany that pupils should be graded according to their ability to do mental work without fatigue.

Other studies indicate that this period is the great epoch in functional acquisition and readjustment, and they suggest grave questions in regard to what training should be at the time of functional mutation of an organ. Dr. Paulsen, for example, has studied the voices of many hundred boys at this period. In 1 per cent. of the cases the change occurred in the twelfth year. In the following three years the number rose to 10 per cent., 30 per cent., 50 per cent. Seventy-five per cent. of the cases were unable to control the voice in producing musical tones. Should voice training be omitted during this period of mutation? Opinion is divided. Such an eminent authority as Dr. McKenzie says it may be continued within certain limits under competent directions. Probably much the same answer should be given in other cases of functional readjustment.

Noteworthy investigations have shown also the mental changes and the psychic activity of the period, appearing in manifold activities and interests, intellectual awakening, the storm and stress of doubt, the conversions, the intense emotional life, the fluctuating interests and enthusiasms, the general instability, and not infrequently the moral aberrations and perversities. All this is tame because for statistics and concrete illustrations I must refer to the original studies. But the reader can recall cases personally observed and add to these the ones described by novelists and biographers. George Eliot, for example, has described many different types of adolescent character. Maggie Tulliver, with her enthusiastic self-renunciation alternating with "volcanic upheavings of imprisoned passions," with her "wide hopeless yearning, for that something whatever it was that was greatest and best on this earth;" and Tom with his energy and self-reliance, kept from waywardness by the wholesome prophylactic of work; Gwendolen Harleth with her intense desire for admiration, her impulsive activity, selfishness, and inchoate religious and ethical sentiment. These perhaps are the most striking examples.

The sequence and causal relations of these changes we do not know. Little is known about the cerebral changes that occur and the concomitant psychic processes. We have, for example, at the advent of adolescence an accelerated rate of growth on the physical side, the increased intellectual activity on the mental side. Whether the two come simultaneously in the individual or whether successively is not clear as yet. Researches by Gilbert and others suggest strongly that the periods of maximum rate of physical growth and the periods of maximum mental development do not coincide. This and many other problems await investigation.

How can secondary education be adapted to the needs of the developing youth? After a study of the complexity of the physical and mental changes of this period one is at first inclined to answer this question by saying that nobody knows. But a few practical suggestions occur to the psychologist. I have no doubt that my vision from this point of view is somewhat astigmatic. I shall try to report it honestly, however.

1. The psychologist is impressed with the opportunity of the secondary teachers. Puberty, the beginning of adolescence, is the great crisis in the functional development of the individual. And the importance of this whole period from a wider point of view and the interest that centers about it can hardly be exaggerated. Recent studies have shown how largely the world's work has been done by adolescents. When the work has not been actually done at adolescence, the inspiration for it, the idea and plan of it, have come in adolescent dreams. Then for a time man is capable of independent and original thinking. Then for a brief period the fetters of habit are thrown off, and one is not a slave to his yesterdays. Reform is possible. Variations are possible. How conservative the world would be if it were not for its adolescents is a matter of everyday observation. The pioneers and adventurers are largely adolescents. The reformers in the church, in politics, in society, are young men and women. The converts in politics and religion are adolescents. In politics it has been deemed almost a mark of weak-

ness of character or a breach of honor if a mature man changed his party. And in religion a convert among the middle ages or the elderly is thought a special work of Providence. Even cases of intellectual stupidity and moral perversity are not hopeless. Just as in case of a large number of diseases incident to this period the prognosis is favorable, so there is good hope of recovery from intellectual aberrations and moral defects. I could make this emphatic if there were time to cite concrete cases. Moral delinquency at this period no more indicates the criminal than nervous disorder is a sign of degeneration. "When I recall my own adolescence," says Tolstoi, "I can understand the incentive to the most dreadful crimes committed without aim or purpose, without any precise desire to harm others—done simply out of curiosity, out of an unconscious need of action." The teachers in the higher schools have their pupils at this period of functional acquisition and readjustment, when they are open to new impressions with almost hypnotic susceptibility. The opportunity for good is only equaled by the possibility of evil.

2. The period of adolescence is preëminently a period of self-revelation. It is the time for many things. If ever Herbart's many sided interest be possible it is now. Specialization in its early years is likely to be premature. It is also a period of self-assertion and self-realization. The youth is less teachable, as Thomas Arnold used to say; but he is more capable of independent thought and study. He is less amenable to discipline. He reacts against rules and authority. Report has come to me of one school where the pupils prided themselves on breaking all the rules of the school each day and counted that day lost when they did not succeed. But while the adolescent reacts against discipline, he is capable of great efforts at self-control, and will do anything if you can put him on his honor.

3. Both observation and the results of investigation indicate the advantages of an active life at adolescence. Activity of some kind in a real or an imaginary world the adolescent will have. The schools must reckon with this impulse and give

legitimate scope to it. It is the time for manual training, physical exercise, athletics, sport, first hand study of nature, and independent mental activity in the laboratory and library. Mr. Lancaster hardly goes too far in saying, "The pedagogy of adolescence may be summed up in one sentence: Inspire enthusiastic activity." But the function of the school is to turn this activity into legitimate channels and to develop wholesome interests.

4. Besides the complexity and revolutionary character of the changes that occur at adolescence the psychologist is impressed with the individual variations. We set down the period of accelerated rate of growth at from fourteen to seventeen for boys; but in any individual case it may come much earlier. It may be postponed later. So with the other physical and mental changes. Again, in some, the obvious changes are chiefly physical and the mental come slowly and without excitement. In others the whole psychic life is rent and shaken by a storm and stress period of doubt and readjustment. In view of the complexity of the processes of development to adolescence and the individual differences in adolescent character, the largest measure of freedom should be granted to the secondary teacher, in order that he may be able to adapt education to the needs of the individual pupil — freedom from competition, freedom from any necessity to train showmen and prize winners, freedom from hurry, freedom from inspection that demands definite results in a definite time, freedom from prescription of methods, freedom from external interference, political, social, or religious. But, to make freedom safe, the teacher must be thoroughly prepared for his work. In a word, the motto for the higher schools should be this: Demand an educated teacher and give him freedom.

5. The education of the secondary teacher should be professional as well as academic. The opinion is still prevalent that the elementary teacher needs special training, but that the secondary teacher is such by the grace of God and the authority of one's alma mater. This has been the feeling in France and

Germany as well as in this country; and in England Sully told me a few years ago that a good cricket player was pretty sure of a place without special quality of any other kind. Far be it from me to discount the advantages to the teacher of skill in cricket playing, or of a college education, or of the divine call. But the first two are not enough, and the last means, I suppose, the teaching instinct. This may be sufficient to make a good teacher, as current opinion has it that the best teachers are born, not made; but as an argument against professional training this is hardly worth discussing; for the supply of teachers who are born such does not equal the demand.

A part of the professional training of the secondary teacher should consist in a study of the psychology of adolescence. Not that old teachers do not know its characteristics and appreciate its significance; but that the young teacher at the outset may have sympathy with adolescence, prevision of its possibilities, and apperception for the lessons of experience.

6. Among the most striking characteristics of this period are the great vitality, the complexity of the psycho-physic development, the puzzling mixture of good and evil, the manifold interests, the capability of varied activity, and the great individual differences. Now I would submit that the ordinary college entrance examination in Latin, Greek, mathematics, and the rest is rather a narrow test of the manifoldness of adolescent character. I am confident also that secondary teachers will agree that in a considerable percentage of cases the entrance examination does not indicate whether or not a student is fitted to profit by the college course. Fitness to begin the work of the college depends upon physical development, health, endurance, habits of study and of sleep, upon one's interests, accuracy in performance, power of independent action, self-control, ability to use liberty, and like qualities, quite as much as upon any intellectual attainments that can be gauged in a blue-book.

Furthermore the freedom desirable for the secondary teacher is not possible with the present system of college entrance examinations. Their scope should be wider both to give the

secondary teachers more freedom and for a more adequate test of the fitness of candidates. In the first place there should be a greater number of options in the entrance examination.

The last few sentences were written before reading the new requirements at Harvard. I am pleased to find my general position justified by the long step Harvard has taken in this direction. The general principle recognized by Harvard and several other institutions is more important than the concrete changes. This principle, as I understand it, is that power, quality of work, habits of thought and observation, are more important than acquaintance with certain prescribed books. But unless the new requirements are wisely interpreted, I fear they will add to already congested programmes. The spirit of the movement, however, is admirable. The chief fault that can be found is that it does not go far enough in providing for tests of character and ability.

In my opinion all this should be supplemented by one thing more—which I hope may be embodied in the new regulations, namely, provision for a report from the secondary teacher concerning each individual pupil. (I do not mean the plan of certification in vogue in many places.) This report should embrace such rubrics as the following: height, weight, as full data as possible in regard to health, endurance, temperament, interests, greatest strength, greatest weakness, activities outside the school, habits of study, accuracy, thoroughness, general character, self-control, power of independent activity, ability to use freedom, stability of purpose. This report would not take the place of entrance examination, but would supplement it. From the results of examination together with the information embodied in such a report a jury could decide more wisely in regard to the fitness of a candidate than from either alone. With such a plan the mistakes of admitting unworthy candidates which every college instructor can vouch for, and of excluding worthy ones which every secondary teacher can report, would be reduced to a minimum.

Such a plan would also be a wholesome stimulus to the

secondary teacher, and it would be a factor of much importance in increasing his freedom. Knowing that habits of observation and reasoning, of thoroughness and originality, would count as well as cleverness at examination; that interest, enthusiasm, and ability to work, might atone for a minimum mark in Algebra or Latin Grammar, the secondary teacher would be spared much of the hurry and anxiety that now overburdens his life.

Some may say that all this is nebulous idealism, that it is not practical. Everything is nebulous and unpractical before it is fully worked out. If it is idealistic I am glad of it. That simply means it is the method of the future not of the past. As Dr. Richardson once said, "Utopia is but another name for time."

Others, perhaps, will say that the plan suggested is nothing new. It is just what the colleges are already doing. In a sense this is true. The plan suggested is not revolutionary. It is directly in the path of progress that Harvard has been pursuing for a quarter of a century. Translation at sight, original problems in geometry, notebooks in science, and the newer methods of examination in English, all aim to test ability rather than mere knowledge. But what I would emphasize is the advantage of going much farther on this path, and of including among the qualifications for admission certain psycho-physic and moral characteristics.

It appears that in some prominent colleges it is now possible in individual cases for a student who has failed to pass the examination to be admitted on the recommendation of a secondary teacher vouching for the good health and character of the candidate. The existence of such a backdoor entrance to the college is an admission of the soundness of the principle here advocated. But its existence does not increase the freedom of the secondary teacher or remove the strain from the pupil. It does not exclude unfit candidates who happen to pass the examinations, and it does tardy justice to worthy ones who do not happen to have the precise scholastic products demanded. And, finally, it fails to give the stimulus to the secondary schools to

work for healthy development, power, and character that would come from the plan suggested.

The purpose of any plan of certification or entrance examination is to determine whether the student is able to do the academic work with profit to himself and without detriment to the college. But whether or not a student will profit by the college work depends quite as much upon his character and capacity as upon any intellectual attainments. When one thinks of the tremendous influence that Harvard has exerted upon the intellectual training given in the secondary schools of this country merely by her entrance examination, one wishes profoundly that she might take the opportunity offered to broaden that influence by better tests for character and ability.

The one general suggestion made in this paper is that the present evils in secondary and collegiate education are due to lack of appreciation and knowledge of adolescence rather than to an unwise choice of subjects in the curriculum; or obversely to a tendency to exalt the content of culture unduly and to neglect the object of culture. This is by no means merely a rhetorical distinction. It is a difference that involves one's judgment in regard to a hundred questions concerning methods, curricula, sequence of studies, articulation of grades, and the like. When devotion to the content of culture is dominant, formulas, methods, articulation of grades, logical order of studies are of prime importance. On the other hand when attention centers upon the object of culture, when the needs of the pupils are the first consideration, it is seen that the logical method may not be the pedagogical method, that the logical sequence may not be the psychological sequence.

I can stop for but a single concrete illustration. Should Latin precede French in the curriculum? It usually does because it is the traditional sequence and it is logical. By no means does it follow that it is the psychological and pedagogical sequence, *i. e.*, the order adapted to the interest and apprehension of pupils and the one best suited for introduction to the study of foreign languages. At Frankfort in Germany and

several other places the experiment has been tried for several years of beginning with French in the first year of the course and postponing the study of Latin for three years. The results already obtained have furnished considerable evidence that this is the pedagogical sequence. It is reported that the pupils have the benefit of three years in French and no appreciable loss in Latin; for after ten hours a week in Latin for two years the pupils of the Frankfort Gymnasium are as far advanced as those in other higher schools who have had the subject for five years. The chief reason for beginning with Latin appears to be the fact that we have begun with Latin and that is the logical adult order.

These few suggestions have been made merely as representing in some degree the psychological point of view. But they are quite in harmony with true pedagogy. Two educational ideals are in eternal conflict.¹ One idolizes the means of education, the other has regard for the end of education. One gauges education by the hours, months, and years spent in the schoolroom, by the subjects studied and pages turned, by exercises written, examinations passed, and diplomas won. The other looks less at what a pupil has *read* than at what he can *do*, and deems present intellectual health and mental ability the only evidence of a good education. The representatives of the former ideal are always anxious to increase the quantity of education by crowding some new subject into the curriculum, by lengthening the school day or the school year, by a rigid economy of the minutes, or in like ways. The representatives of the latter, aim to keep pupils always at their best, and would shorten the periods of study, if by so doing it be possible to quicken the pace of their students and increase attention. The former sacrifice pupils for the sake of subjects, curricula, promotion, logic. The latter would even sacrifice the symmetry of curricula, systematic articulation of grades, and logical method and sequence, whenever necessary in the interests of healthy growth and the development of character.

¹ See the Pedagogical Seminary, Vol. II, No. 1, p. 60.

DISCUSSION

THE PRESIDENT: It must be that the presentation of these important topics by the two gentlemen who have already addressed us, each from his own distinct point of view, and the perfect harmony that has appeared in the two papers, have stirred in your minds a desire to participate in the discussion which is to follow. It is not my purpose to call upon you one by-one, but I trust that each of you, without waiting for the others, will take up the theme and let us have, from theory or from practice, a careful discussion of the subjects which are now before us.

MR. CHARLES C. RAMSAY, Principal of the B. M. C. Durfee High School, Fall River, Mass.: Mr. Chairman and members of the Association: Although I feel unable to contribute anything new to the discussion of the important themes presented, yet, as I was asked a few days ago to speak this afternoon, I will keep my promise by merely opening the discussion. Both papers, it must be clear to us all, are closely related to a common subject—a subject, moreover, in which I am deeply interested. By way of introduction I know you will indulge me in the expression of some general thoughts upon the subject under consideration that occurred to me on the way to this meeting, although, until arriving here, I did not know what the contents of the valuable papers to which we have listened would be.

Several centuries have passed since the days of Lord Bacon and his *Novum Organum*. The method of science, that is of induction from observed facts, slowly entered and has slowly dominated the study of nature, and, within recent years, it has been applied—in some measure and somewhat timidly—to the study of human nature and human institutions. The field of education, or the development of men from infancy to maturity, is the last to be entered by the scientific method. But it has scarcely yet been applied to the more important problems of education. Certainly, few results among the many we may expect from its use have yet been attained. Hitherto, and even now, speculation and *a priori* methods of reasoning have been and are the chief reliance of students of pedagogics. When such has not been the case experience of an isolated and fragmentary character has been substituted. But from the great movement toward the study of children and the study of adolescence—and, especially and chiefly, from university departments of pedagogy we may confidently expect not merely

new truths and new methods of studying educational problems, but a revolution in methods of teaching and managing schools. The scientific method applied to the study and practice of education not only magnifies the importance of truth and sets aside errors and prejudices, in this as in all other fields in which it is used, but it is essentially *beneficent*. It considers, contrary to what at first might be supposed, not so much *knowledge* and facts as the *individual* and his welfare. Science here is thoroughly *humanizing*. It would, for example, construct a course of study or devise a method of teaching or management adapted to the needs—if not of every individual yet—of the great majority of the youth for whom such a curriculum or method is prepared.

The speakers this afternoon have, I think, very successfully maintained their respective theses. If, perchance, any member of this association, recalling former programmes and knowing that the object of the association has been rather to legislate, to effect actual changes in school and college systems—if, remembering the great practical usefulness of this association, any member should feel that at this meeting we have departed from it and gone “wool gathering,” I wish to correct such an impression. It is just possible that—though this association has done much important work—it has sometimes put “the cart before the horse,” that, like other associations whose methods we have desired to avoid by the adoption of a better system of operation, we, too, may have been making recommendations and requisitions without sufficient and accurate data, and groping in the darkness of pedagogical speculation. If the present step be the beginning of a change in the methods of investigation of educational problems by this association, I for one welcome it—if, as I expect, it will throw light upon the roots of the matters in which we are so deeply interested and the difficulties we so much desire to remove. If this association—whose influence is so potent not only in New England but throughout the country—should adopt the scientific method in the study and application of pedagogical principles, it would be very difficult, I think, to measure the gain to the cause of education.

In reviewing the papers of the afternoon, I think of one or two cautions that might well receive our attention. In the chemical laboratory, how molecules behave in the presence of other molecules, what changes they undergo, have now been reduced to laws of tolerable certainty. Perhaps this has been easy, too, compared with the

difficult problems presented to the student of the science and art education. How children and youth will behave in the presence of other children and youth, how they will react upon their environment, is, it seems to me, a much more difficult question; for the human will is capricious and it is not so easy to investigate self-conscious human beings as to study inanimate natural objects. This caution, I think, needs often to be expressed by the practical educator to the scientific student of education, or of psychology applied to education. It is easy, in the study of human nature, to overlook hidden or slightly developed elements in condition and environment. For example, if we judge merely by the past experience and behavior of youth, can we determine their capacity for the acquirement and application of knowledge? Confining ourselves to the study of old conditions, what can we know of the development of character and mental power of pupils under the inspiration of a better, more enthusiastic, and wiser teacher? or in the presence of improved apparatus of instruction? or in the midst of a more refined and more intellectual atmosphere? Much data obtained by the use of the scientific method in the study of education cannot be final, but must be qualified by the particular conditions of the youth studied. The great difficulty in determining accurately the laws of mental life, growth, and action, and the elaboration of the pedagogical principles dependent upon them, must be clear to us all. It seems to me, however, that the obstacles to the scientific study of education are merely incidental; that they can be surmounted; that one allowance can be made for all modifying conditions. Instead, therefore, of constructing school programmes and devising methods not based upon ascertained facts, but rather upon arbitrary standards, guesses, and traditions, we may sometime proceed upon scientifically established principles resting upon many observed facts.

It must be confessed that in actual practice, we are often far from doing even as well as we now know, to say nothing of the knowledge of youth that may yet be gained from the scientific study of education. For example, there are yet many teachers, I fear, who assign daily lessons at the ring of the bell, entirely regardless of the capacity and environment of the pupil and the time at his disposal. Doubtless there are yet many more who assign lessons without a single conference during the year of all the teachers of a given class, to determine the whole time that ought to be at the disposal of the pupils in the preparation of their lessons and the approximate share due each. Too

often lessons are assigned in one apartment of a school regardless of the claims of any other department, even in cases where lesson assignments have been deliberately planned in advance. I do not here mention the graver errors that prevail in many places in making courses of study and treating other matters of school economy. Before the scientific expert can determine the real capacity of a pupil, therefore, he must make due allowance for the conditions and limitations of our present pedagogical practice. Without experience under better instruction and improved environment, the powers and possibilities of youth must of necessity remain largely matters of mere conjecture.

Another caution: Dr. Atkinson was so kind as to submit to me for my opinion last spring his schematic outline for obtaining data regarding his entering classes from grammar-school teachers and parents. Although I was much pleased with it, I made some comments in response that may profitably be repeated here. It seems to me that in some places such a method of youth study as he has begun would have to be used with the rarest tact and skill, or fail utterly of attaining its object. As I wrote him, many high-school teachers have said in my hearing that they did not want to know the previous school records of their pupils, since they wished to receive them without bias or prejudice. Many grammar-school teachers have felt it undesirable and injudicious to furnish the teachers of a higher grade such data concerning promoted pupils. Parents also are far more sensitive to fancied evil results of such a method of youth study in some places than in others. School authorities, moreover, might in some places forbid its use. Communities composed of persons of broad views and liberal culture will have most appreciation for and will offer greatest encouragement to such a system. I speak of these things, however, not as opposing the method but to call attention to some of the obstacles to its adoption and successful use that must be met and overcome.

While listening to Professor Burnham's admirable paper, I was forcibly reminded of a statement of Professor Krafft-Ebbing in his great work upon psycho-pathologic sexual life, that the period of puberty is one in which if a youth does not acquire *ideals* he never will possess them. If this be true, then the secondary school period is one wherein the truth, "He which is filthy let him be filthy still, he that is holy let him be holy still," applies with tremendous force. If this were the only truth for us of the psychology of adolescence, the

opportunities and responsibilities of secondary teachers are, indeed, very great.

For one, I am very glad that these themes have been presented to this association; and, as with past suggestions and views brought before us, I hope the truths set forth may be realized in actual practice in the schools and colleges we represent.

PROFESSOR MARY A. JORDAN, of Smith College: It has been suggested that I should say something this afternoon from the point of view of a person who has had more to do with teaching girls than with any other line of secondary or advanced education. I am so unfortunate as not to have heard the first paper this afternoon, and, therefore, can make any remarks upon it only from the inferences which I have been able to make in listening to the second. As far as I understand, however, I am in so thorough concord with the conclusions of both that what I have to say is rather by way of corroboration than by way of technical discussion.

Perhaps the first point which suggests itself to a teacher of girls is that the difficulties and problems of the period of adolescence are a little more obvious in the case of girls than of boys. I think, too, that we usually find it more difficult with girls to preserve the proper distinction between self-intelligence and an undue and dangerous self-consciousness. In saving them from that docility on their part, which makes them too much dull and inert material, as one extreme of their character, we have to avoid that almost hysterical self interest which make them really interfere with their own development by the energy of their interest in it, and I find, after a considerable amount of investigation, that those students who have been happily and intelligently let alone as far as theories about their own education and self development are concerned are usually as well off as those who, in the usual phrase, have been rendered intelligent. Ignorance of one's intellectual system seems to me almost an advantage, certainly so far as the feeling of too strong a personal responsibility for what is going on in one's development is concerned.

One very serious problem, I think, of adolescence has not been mentioned and that is the closely related and concrete problem of age on the part of the parents, who almost invariably feel that their children, and particularly their daughters, ought to avoid all their mistakes, ought to make economies of all their extravagances, and ought to have in the enthusiasm of youth all the attainments and the virtue and the

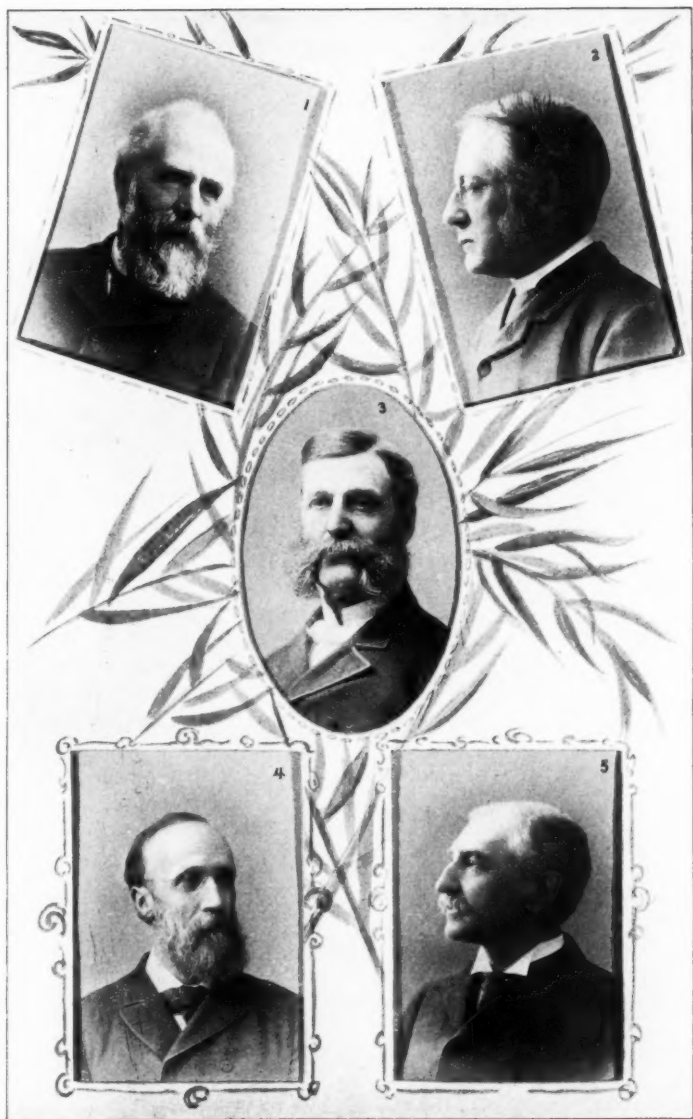
prevision of very considerable maturity. This difficulty, it seem to me, meets every secondary-school teacher, and I happen just now to be fresh from an experience which was shared with me by a very intelligent and energetic principal of a so-called high school in which until within two years no Latin had ever been taught. Although this man is putting all his energy and enthusiasm into the task of bringing up the work of that school, it is quite impossible thus far for him to persuade the parents of the community that there is any practical value in certain studies for their children. They feel, moreover, that the taxpayers of the community should not be asked to educate a small number of persons for college, and they make a sharp distinction between those talents and powers which need to be educated in certain classes of students during a limited time of youth and those necessary for others. The value of a college education, which seems to many of us a matter of course, is a matter of the gravest doubt in this community, in other respects not on a level with Hottentots, not in any sense lacking perhaps in general intelligence, in patriotism or in morality.

I find, too, after an examination of a sophomore class of some two hundred and fifty students, by means of careful asked questions, that more than 75 per cent. of them had no notion whatever during their preparatory course that one line of study had any direct relation to another. They were convinced that a fact in ancient history was forever done with the day they closed their text-books. To be asked to use it in any other department seemed to them a base imposition on human nature. Last year I tried the experiment of introducing something of the "power requirement" into the examinations. The experiment was attended with almost uniform objection from the parents of unsuccessful candidates. The parents said that Sadie and Mattie had invariably stood well in their classes; in some cases were honor students; it seemed therefore manifestly absurd to ask them for further evidence of attainment. One of these honor students, after having passed through a high school, having taken a technical course of study to prepare her to be a teacher, wrote the following in answer to the requirement: "Tell as well as you can, since you have the material, the story of Numa Pompilius." The answer was: "I never heard of Numa Pompilius. Her name therefore suggests nothing to me, but I will narrate her story as I think it ought to have been. Numa was a little girl living in the country. She was exceedingly anxious to have an education and so she picked water-cresses and sold them to the

travelers and at last attracted the attention of a kind gentleman, who is at once a minister of the gospel and a teacher, and he put her in the way of the gratification of her heart's desire." This student was perfectly satisfied that since her acquaintance with Roman history had been "certified" my requirements in English were abominable.

Another distinction which it seems to me needs to be made is in favor of two very distinct classes of minds among girls. Perhaps all men are alike. Girls fall into two very widely different classes: those who have original power, who possess the ability to apply principles, and those who, as far as I am able to find out, have not such power or ability but who are nevertheless admirable persons, capable of becoming good citizens, of doing their duty in the world and of reflecting considerable credit on the institution that may give them a diploma. With them industry has a certain educating and culminating result. And I must say that I think as much injustice would be done to one-half the girls in the world by accepting nothing but the so-called "power examinations" as is done to the other half by insisting upon precise answers and precise questions on examination papers. I had a very curious experience some years ago. The professor of English in one of the Western universities, attended by both men and women, brought me a large number of type-written papers signed in cipher. These he handed to me without any classification and asked me to look them over quickly and tell him what I thought of them and how I thought they compared, on the whole, with corresponding work in the Eastern colleges. As I looked them over, they seemed to be of two clearly marked classes. I said: "Papers like these I am perfectly familiar with, but these others have throughout a quality I am trying to secure." He said, "That sounds very interesting. Let me see." Reference to the paper with the names corresponding to the ciphers showed that I had picked out every boy's paper in the list. The poorest of these were all characterized by a quality that the papers written by girls with which I was familiar were able to secure only after long training if at all. Many of the papers written by the boys were extremely crude and were full of blunders, but as a class they possessed a power of applying principles which those of the girls did not show. There were instances of great literary merit, however, among them. As a matter of fact the best paper of them all was written by a girl.

MR. SAMUEL T. DUTTON, Superintendent of Schools, Brookline: If it is proper for a person not a member of the association to say a



1. CECIL F. P. BANCROFT.

2. CHARLES W. ELIOT.

3. WM. F. WARREN.

4. THOMAS D. SEYMOUR.

5. REV. WILLIAM J. TUCKER.

single word, I should be glad to do so. It is because of my profound interest in the subject and appreciation of the papers which have been read that I am glad to join the discussion.

I find myself sympathizing very much with the remark of Mr. Ramsay, that if this association, after several years of careful and fruitful study of the organization of courses, should devote itself to these very vital and important subjects we should hope, I am sure, to get out of it something important and valuable. We have been going through, in all departments of instruction, a period of organization and our attention has necessarily been devoted to that phase of work. Because of the rapid growth of our schools and the massing of people in cities, the problems have come up more rapidly than we were able to meet them. But it seems to me that we ought at this point to turn our attention to the things that have been suggested this afternoon, and I was very glad that Dr. Burnham did not close his most interesting paper without calling attention to what seems to me the important fact that secondary-school teachers are not likely to give their best thought to these questions until there has been a radical change in college entrance examinations. I have no desire to complain or make any random criticisms upon these matters and I welcome with great pleasure the changes that have been made already, but still I do myself most humbly and profoundly hope that the time will come when our boys and girls can walk from the doors of our high schools up to the college with a statement from our teachers as to what they are and what they have done, and be given an opportunity to do work. I believe that in certain parts of this country, as for example in the West, where students are able to do this, they are getting a better class of work in the secondary schools, as well as in colleges. And I am prepared to say further that I believe that the time is not far distant when Yale and Harvard, both of which institutions I revere, will set an example of opening their doors, taking students for what they have done and giving them a chance to do work.

I do not believe that any member of one institution can set proper papers for members of another institution. If students should come up to the college and after being there three or six months be permitted to give evidence of their power through examinations, I am sure I never should object to examinations *per se* given that way; but when these examinations give tone and color to everything that is done in the secondary school, and as the pupil approaches the time

when the question is to be decided whether he can go to college or not, there is a nervous tension thrilling through the pupils and through the teachers, narrowing the instruction, often driving pupils, parents and teachers almost crazy, I say it is time that careful, serious thought be given to this matter. I don't say this in the spirit of criticism; I say it because I have seen it year after year and I see now a member of my own family, who is perhaps of average ability, who has as hopeful an outlook as most pupils who are looking toward college, and who is in a school which is most broadly managed, where every consideration is given, yet under these favorable conditions, within a year of college is beginning to experience a sort of nervous anxiety which to me is most painful to see. Mr. Chairman, I say I do not say this in the spirit of criticism, I know that these things are moving as fast perhaps as they can move, but I do believe that it is not long before we shall see something different.

Just a word in regard to the capacities of pupils. The teachers in secondary schools may know a great deal about the children under their charge, provided their attention is not diverted to something that is extraneous and something that makes the school unsocial. My friend speaking on the other side of the room of the isolation of the results of studies as they are found in the minds of certain pupils, reminded me of the unsocial, purely individualistic tendencies in some of our secondary schools. This condition can never be overcome until our teachers can study, as they certainly can do if they are relieved of this extraneous influence, the pupils. They will do it. It is not necessary to devise any subtle system of child study. They will know their pupils if they are true teachers. I remember some years ago in Yale University we used to have what we called the Thanksgiving jubilee in the autumn, and it came to pass that in the course of a few years a system of dramatics grew up there in connection with those jubilees which the faculty thought were not all that they should be, and they passed a rule that students should not appear in female apparel. The students cheerfully acquiesced in this decision, as they always do at Yale, and when the next jubilee came off those who were designated to take the part of women appeared with large labels on their backs. There was perhaps some delicate suggestion of female apparel, but nothing noticeable, but these labels indicated that one was a chambermaid, one was a waitress, and so on. They were labeled. The point I wish to make here is that the open-eyed teacher of sympathy

and insight needs no label upon any single pupil to enable him to know a great deal about that pupil's tastes, temperament, disposition, power, and all those things that make up the personality. All that we want to do is to remove the slavish feeling that there is something greater in education than developing that whole personality.

THE PRESIDENT: I am very sure there are persons here who have had experience in teaching both boys and girls in the same classes, and those who have had experience not only with boys and girls in the same classes but at various stages of their education both in school and in college. I see two women here who have been college presidents, or are college presidents. I believe they ought to tell us their thoughts upon these subjects.

DR. ALICE FREEMAN PALMER: I should have been very happy to respond twenty years ago, because then I thought I knew something about the subject, but I have studied so many boys and girls in the last twenty years that I now frankly rise and confess, as Doctor Burnham urged that we should, that I don't know. I am afraid, too, that I shall never find out, and that other teachers will hardly find out, the answer to the question as to the capacities of secondary-school pupils, until we have a convention between intelligent and conscientious parents and the teachers themselves. In the minds of all of us there must have been during the discussion and the reading of the papers gratifying remembrance of certain towns in New England where teachers and mothers and fathers are constantly taking counsel together, not simply filling out admirable blanks, but meeting and discussing in the friendliest conversations the interests of their secondary school boys and girls. I have myself made some studies as to the reasons of fatigue and headache in our boys and girls. I don't think they are so much unlike, though what has been said certainly does apply to difficulties more noticeable in the life of the secondary-school girl than in that of her brother. But I find that both boys and girls are quite likely not to eat their breakfast before they go to school or to eat it too hurriedly. I remember very well a few years ago watching a great school for girls in Philadelphia when there was introduced a compulsory luncheon at half past ten o'clock. Teachers who had been discouraged about the capacity of girls of fifteen and sixteen changed their opinions utterly in three months. It seems to me, therefore, that there are some very practical questions for teachers of the secondary-school children and one of them is this which Dr.

Atkinson has referred to, the question of food. Perhaps it is womanish and old fashioned, but for my part I should rather see, in the interests of the work of this association, a careful study of the question of food for school children than even the discussion of a change of requirements for admission to college. To a teacher of girls, as she watches her girls constantly, the question of food is one of the most vital questions, for it is a part of the great problem respecting the nervous pace that we shall give our girls and boys, in our difficult New England climate, and in the emotional life of our society. We must continue to study these serious complications between the schools and colleges and their requirements for admission. But shall we not also study that one ever present in our American life, the question of the social life of our boys and our girls? We who have been boarding-school teachers or teachers in colleges where students are removed from home influences have not had, I venture to say, half the difficulty in dealing with the young people that those have who teach children who are at home and especially the girls who are at home. It seems to me, ladies and gentlemen, before we can decide what the capacities of the young girl may be for intellectual or physical power and development, we must get her away from home. This is a very brutal remark, and does not at all, I know, satisfy the mothers, who feel instinctively that the best place for a girl is with her mother. We have all heard that axiom, all of us teachers, all our lives; but I venture to say, as a lover of girls, that one of the best things in the world for a young girl, if a teacher would discover what her capabilities are, is to get her away sometimes from the wisest mother. Since that may not be possible for our high-school boys and girls, can't the mothers and the teachers together determine something of what these capabilities are by discovering how we may sacrifice our young girls less on the altar even of the Epworth League, or the Society of Christian Endeavor, or the best church fair in the world? These objects, beautiful and noble in their way, are slaughtering our school girls, as we all know, all over the country. The broken down girls and their brothers—for the boys break down nervously, too—cannot be saved, and we cannot discuss fully their possibilities, until the mothers and fathers, and fathers especially, meet with the teachers in convention, as here are meeting the masters of the schools and the presidents of the colleges.

THE PRESIDENT: Is there not some one here who will speak for the academies, in distinction from the high schools and from the college girls?

DR. ATKINSON: For one I should like to hear from Dr. Newhall, of Wilbraham Academy, who has some ideas to offer, I am quite sure, on the question of the afternoon.

DR. WILLIAM R. NEWHALL, Principal of Wesleyan Academy, Wilbraham, Mass.: I am not prepared to enter into the discussion of the afternoon, though I am in most hearty sympathy with the papers that have been presented. "Fitness to enter college depends on physical development and moral character," was one of the remarks of Dr. Burnham. Within a few days the registrar of one of our leading New England colleges has written to me with reference to the fitness for entrance at his institution of a young man who had failed in the special examination that had been set. The registrar said in this letter: "If you think that the young man has sufficient character and sound enough health to maintain his college course, we are ready to receive him." It seems to me there is a larger disposition on the part of college authorities than is realized by the secondary teachers to receive students of qualified powers, quite apart from the specific preparation which they may have had. Our boys and girls are often sadly deficient in their personal habits, and need instruction with reference to diet, exercise, sleep, and the care of their own bodies. The United States navy and the United States army require specific physical examinations. Why should not the colleges also? Why should not the leading secondary schools provide for proper physical instruction? Oftentimes in my own experience incorrect and positively vicious habits have been remedied in this way and with the sound body has come a clearer intelligence and a stronger will, and the stupid student has become successful. There is an ethical significance in physical examinations and in physical development which up to this time has not been realized. Boys and girls away from home in our academies are subject to specific regulations in the matter of sleep and of diet and it is the uniform experience, I suppose, of masters of such schools that increased capacity for study and better health result. Somewhat of this ought to come everywhere. For myself, I hope that a physical test will be applied soon by the colleges, and that every secondary school will provide such physical training as shall secure for the pupil mastery of his own body with real self-intelligence and without undue self-consciousness.

PRESIDENT JULIA J. IRVINE, of Wellesley College: I wish to thank the last speaker for calling attention to the fact that the colleges are

sometimes a little better than their word, and I believe you will allow me, and perhaps others will to take a moment of your time in instancing a thing upon which they are also better than their word. We all know the defects of college announcements. We all know or suspect that some other college puts more in its announcement than it is always ready to make good. We may acknowledge that in the haste of printing we sometimes do the same thing ourselves. But there are other things that are not put in the college announcement which nevertheless a college has, and I speak for one that has a requirement in health which it exacts by a rigid examination and which it requires a student to maintain through her college course. (Cries of "Good.") We think it is.

May I have another moment to say how heartily glad I am to hear attention called to the loss of power between the grammar school and the high school, and though not so directly, certainly also to the loss of power that there often is between the high school and the college. Whether the same plan that has been so fully set forth by Dr. Atkinson in regard to bridging this chasm between the lower school and the next one would answer if it were applied to the high school and the college I cannot tell. Practical difficulties suggest themselves to me. I am afraid there are those here who would know how I should hesitate to recommend the addition of any more details to the Wellesley entrance certificate. But I must ask, if the college is to get the information that it ought to have, that it tries to get, that it most highly values, as to the character of its entering candidates, how shall it do it? Will the school give this out of its grace? It does sometimes on direct application in individual cases. Will it, as I may say, form a habit of doing this? Must a college first make the requirement?

MR. CHARLES C. RAMSAY: I should like to ask a question of Dr. Atkinson, or others, that may be of interest to some here besides myself. There is a great desire on the part of many earnest teachers to *individualize* more in their instruction and management of pupils. The colleges have been charged this afternoon with some responsibility, acting upon the schools through their requirements for admission, for the inability of teachers to do so. Perhaps, in some measure, there are grounds for such a charge; but is there not another and greater hindrance, that is, conventional standards of judgment upon partiality and impartiality that prevail in the community and in the school itself? How many here have not heard the cry of partiality

raised against them when they have tried in all good conscience to individualize in their treatment of pupils? The popular, but indiscriminating and ill-judged, cry is, "Treat all alike." Any departure from such uniformity of procedure is followed, at least in some places, by the utterance: "Treat my child like you treat my neighbor's; I pay as much taxes to support the schools as he."

DR. FRED W. ATKINSON: To speak concretely of one form of partiality, there is complaint in Springfield — and it is a complaint often heard in other places as well — that the college preparatory pupils are given the best teachers, and that the programme is based entirely on their particular needs.

I tried this afternoon to show that the school's attention should first be directed toward the physical and intellectual well-being of each individual pupil, quite regardless of his destination. I believe the best teachers should divide their time about equally between those who are and those who are not going to college. The complaint that college preparatory pupils receive undue consideration must be met. The plan of pupil study, which is under consideration in Springfield, attempts to do away with this form of partiality.

DR. ROBERT P. KEEP, Principal of the Norwich Free Academy: It occurred to me as Mrs. Palmer was referring to the need of healthy food, adequate food, and of looking out for the physical support during the school session of the boys and the girls in our high schools, that it might be an interesting thing if some rough result could be arrived at among the principals of the high schools and academies that are here present as to how large a proportion of those high schools and academies that are here represented which maintain a single session were in the habit of providing for a lunch in that session. I don't know whether it would be at all feasible to obtain any such result at a meeting like this, but I think it is always interesting to get hold of our facts when we are most interested in them.

I was very much myself struck with the wisdom that had been shown in what had been omitted as well as what had been laid down in the inquiries that Dr. Atkinson had arranged. I think we must, however, recognize that there is not everywhere an advance in the intelligence of the parents who send children to high schools. On this account, the attempts to get intelligent coöperation from a large percentage of parents of pupils are somewhat disappointing, and I dare say that it is true that many parents would half resent the effort

made on the part of schools to extract information from them. They would be somewhat apt to say: "We turn the child over to you and we don't want to have you ask any questions about the child. Your business is to take the child and do for him as you can with the light that you have." That only shows again how very important the conference between representatives of the high schools and parents, necessarily selected parents, is.

DR. FRED W. ATKINSON: Dr. Keep has asked the high schools a question, I should like to ask the academies a question. In how many academies represented here is there the physical examination spoken of by Dr. Newhall?

MR. EDWARD G. COY, Head Master of the Hotchkiss School, Lakeville, Conn.: In answer to Dr. Atkinson's question, it has been the custom of our school from the very first to give every pupil a thorough physical examination at the beginning of each year, in the fall, whether he be a new pupil or an old one. This examination is made as complete as possible and includes both the eye and the ear tests. The information gained through these examinations has been found to be invaluable in determining the obstacles in the way of many students' success with their studies and in determining also the extent of physical or mental power. We have been surprised and astonished at the results obtained by the eye and ear tests. We have found quite frequently that, in the language of the examiner, one boy can hear three inches with one ear and fifty-one inches with the other. It makes a tremendous difference in which direction the teacher is from such a boy, for the purpose of determining whether he would be open to the charge of being inattentive to explanations given in the classroom or not. The differences in the seeing-power of the two eyes are oftentimes quite as great; so that if such a boy does not sit in a certain direction from the blackboard, explanations put upon the blackboard are absolutely useless to him. In few instances have parents discovered that there was any defect; and consequently nothing had been done to relieve or correct the infirmity. These examinations are repeated in full at the close of each school year. Some very interesting data have been thus obtained as the result of one year's experiments. We are interested in the examinations to be made this fall for their bearing on the question of physical growth as related to the season of the year. I think it was an article in the *Forum* some time ago which stated that a boy grows as much during the summer vaca-

tion as during the rest of the year. If that is so, it has a very important bearing upon the length of the summer vacation, I am not able to say whether a boy grows because of the summer vacation or whether a long summer vacation ought to be given because of the growth; but certainly there is a very interesting question to be studied here. We find our physical examinations absolutely indispensable.

While I am on my feet I would like to add a word expressing my very great indebtedness to the authors of these papers, because of the emphasis which they have laid upon certain matters that have perplexed me personally, and that I think have perplexed other secondary-school teachers. In fact, the valuable information that has come to us this afternoon through these papers has set my mind working so intensely in the line of meditation and reflection as almost to paralyze my power of production or reproduction. While, therefore, I would like to contribute something to a discussion so important as this out of my own experience, I can find myself able to do little more than to concur in the conclusions that have been stated; and so far as that corroboration, based upon my own experience, is worth anything I am very glad of the opportunity to give it. The point suggested by the paper, perhaps suggested to me because of the mood that I was in—the point suggested to me was the impoverishment of class work under the system of pressure which has followed inevitably from the enlargement of the requirements for admission to college. I remember when I came to Easthampton in 1862, to prepare for college under Dr. Josiah Clark at Williston Seminary, I said to one of the boys in the senior class, as we were talking over school life one afternoon, "What is there about Dr. Clark's recitations that makes them so popular?" He answered: "Why, one of those recitations is a liberal education in itself." And I have often heard Dr. Taylor's pupils, the old Andover boys, speak of their class-room exercises in the same way. I may be wrong, but my impression is that, with all the advance that has been made in raising the standard of education, the standard of candidates for admission to college, and the development of power in certain directions, class-room exercises have not improved in twenty-five years upon the exercises of Dr. Taylor and Dr. Clark; and that in the attempt to develop power for going ahead we have narrowed our work to one or two lines.

What we need now is to slow up, that our work may be broadened and enriched. Every teacher, I think, finds, as he goes on from year

to year teaching an author like Virgil or Homer, and is surprised to find that he has less and less time for reviews every year. Why? Because his own studies, and reflections, and experience in teaching furnish so much to present for inspiring and enriching the work of the class room that he can occupy the whole time with the advanced lesson. And yet were tests of quantity, proper enough, become great and imperative, one feels a pressure that is irresistible. That pressure leads to an inquiry as to what is the best method; and by best method we usually mean the most direct method, or, to adopt the language of the day, that method which will save time. We teachers are as much the victims of the passion to save time and save labor in education as you find among men in the commercial world; and in the search for conditions by which we may save time and save labor we are exposed to another tendency—well stated by Professor Peck in a recent number of the *Cosmopolitan*—to make education largely a matter of applying and working out formulas. But the moment we reduce methods of education to formulas, and leave out the personal facts, the personality of the master, we become artificial and mechanical. I am glad, therefore, that the papers this afternoon are agreed in calling for a larger liberty for the teacher, which implies, of course, greater fitness for his work. Better teaching is indeed desirable. But as a condition of better teaching the pupil's attention should not be so taken up with the mere amount of the college requirement as to leave scant time for a really superior teacher to enrich his work out of his own experience and culture.

MR. JOSEPH H. SAWYER, Principal of Williston Seminary, Easthampton, Mass.: Since request has been made that the officers of academies report what is being done for physical culture of pupils, I will say for Williston that physical measurements have been made there during many years, and gymnastic training for a longer time. The gymnasium was built in 1864, and from the beginning the Amherst plan has been followed. Physical measurements have been made so long that we have an accumulation of statistics, from which averages can be made. There a boy of certain age and height can be shown whether his measurements fall below or rise above the average in the class to which he belongs. He is advised of his physical defects and told what to do to remedy them.

THE PRESIDENT: Dr. Atkinson, would you like to add anything by way of summary or reply? Professor Burnham?

DR. WILLIAM H. BURNHAM: I should have been very glad to make some other suggestions. I should have suggested that not only physical but psycho-physical tests should be added, but I thought that would seem too ideal and too far in the future.

I am glad that the matter of food has been mentioned. I know a boy in a neighboring city who goes to high school where there is one session a day. The family eat breakfast at about 6 o'clock in the morning. He has a capricious appetite and eats very little. He goes to school and eats nothing but a little pastry until he comes home at 2 o'clock in the afternoon, to eat a cold dinner, whatever he happens to fancy. I know a young woman, now a graduate of Smith College, who in the high school followed a plan very much like this and was entirely broken down in health at the end of the course. She went to Smith College, lived a regular life, and came out of the college a healthy young woman. She says now that the dyspepsia from which she suffered was due to the irregularity in eating and lack of food while she was studying in school. I would suggest that a profitable inquiry might be, how many boys and girls eat anything besides pastry before 2 o'clock in the afternoon.

I would suggest that one might profitably make the inquiry also how many boys and girls have ever been out into the country. You may think that very strange, but I am told in Worcester that a great many of the pupils, especially the girls, have never been into the country until they come to take the subject of botany in the high school. There are a number of inquiries of this kind that might profitably be made, and the aim of my suggestions was largely to find some means of giving secondary teachers the liberty and the time so that they could make such investigations.

With this the discussion closed, and after certain announcements by the secretary an adjournment was taken until evening.

FRIDAY EVENING

The evening address was presented by President William J. Tucker, of Dartmouth College, and had for its subject:

THE INTEGRITY OF THE COLLEGE UNIT

If one were to attempt to apportion the educational gains of the past decade, designating the exact contribution from each part of the educational system, he would not be able to give any

large credit to the college. Our colleges have shared in the general advancement. They have grown in the number of students, in the value of their equipment, and in their methods of administration and instruction. But their gains have not been at first hand. They have not represented the outgrowth or expansion of the college idea. These gains have come in from without, chiefly by way of the university.

A generation ago the most stable and clearly defined part of the educational system was the college. Today the college, if not unfixed and undefined in place, represents that part of the system which is confessedly most in need of redefinition and revaluation.

I am concerned, therefore, to ask, I trust not simply because it is my special business to ask, but in the general interest—What is the present value of the college idea? For upon this value depends the integrity of the college unit.

The time has come, I think, for some one to put this question, even if the one who puts it does not assume to give the sufficient answer.

There are three principles which seem to me to express the educational advance of the past decade, and measurably that of the previous decade, namely, research, utility, and economy, economy of time. The first principle wrought itself out in the establishment of the university, the second in the development of the school of technology, the third in the readjustment of the secondary, and, to some extent, of the elementary school.

Let me go into particulars for a little.

The spirit of research gave us, for the first time, the true university on American soil. The growth of the university idea has been so rapid that we can hardly realize how recent it is in our educational development. I recall a few familiar dates, not covering the field, but sufficient for illustration. Johns Hopkins went into operation in 1876, Clark University in 1889, Chicago University in 1892.

I assume that real university work at Harvard dates from 1869, when systematic courses of advanced instruction in philoso-

phy and literature were given, examinations introduced, and degrees, after three years, conferred; but the graduate school, which is the kernel of the university, is the outgrowth of the past ten years. Yale College passed over into Yale University in 1886, and Princeton College into Princeton University in 1896. University work, however, preceded in each case the assumption of the name. The university idea, as standing for original investigation and research, has always had brilliant individual illustrations, even in the scantiest days of the old colleges, but we have not been able until now to organize the idea and give it fit proportions. The creation of the university is the greatest distinctive work of the past decade.

Next to this work, I put as most distinctive, the development of the principle of utility through the technical school. I will not stop to show by any enumeration the increase of these schools. A clearer evidence of the working of the principle of utility is seen in the relative advance of the great departments of educational training, which have an economic or commercial value—chemistry, physics, biology, and, in this regard, mathematics. In the last conversation which I had with General Walker, he emphasized the remarkable advance of biology as an economic science, prophesying that it would rival chemistry in its commercial value. Professor Huxley, as you may remember, calculated that the experiments of Pasteur had added to the wealth of France a sum equal to the cost of the Franco-Prussian war.

I have referred to one other distinctive feature of the educational progress of the decade, namely, economy of time, as seen especially in the readjustment of the curriculum of the secondary school. Of course the Committee of Ten had other objects in view in their report than economy of time, but I have always assumed that one of the chief motives in the mind of the chairman of that committee was the recovery of those wastes which had been caused by ill-adjusted courses of study. Certainly the principle of economy is now at work with sustained vigor, pushing its way down into the elementary schools. It has already

given, as a direct result, some gain in time, and as indirect results, a more logical order of studies, closer methods of instruction, and, best of all, mental enthusiasm.

These, then, if we are so agreed, have been the distinctive principles under which we have made the educational progress of recent years, research, utility, and economy. But not one of these is the distinctive principle of the college. The college does not exist primarily for research; it cannot exist at all if it surrenders itself to the principle of utility; and it has less concern than the professional or technical school with economy of time. From the nature of the case time is not the same in the process of culture that it is in the process of economic or professional training, provided always there is no waste in either process. A college, as such, is not immediately concerned with the shortening of courses.

All of these principles, I must repeat, have been of immense benefit to the college. They have made it in part what it is today, in distinction from what it was a generation ago. What it was then has been sketched after this fashion by a modern educator:

"The American college curriculum, at the time when most of us became acquainted with it, was a very definite thing, time-honored, and commanding a certain respect from its correspondence with the theory on which it is based. Its fundamental idea was discipline of the mind. Its mode of effecting this was, in large part, by shutting the student's eyes to the distracting and inconsequential present, and fixing his gaze on that which was great and good, and hard to understand, in the past. The main work of the course consisted of drill in grammar and mathematics; and the results of this training were bound together, at the hands of the president, by a final exposition of such of the speculations of philosophers as seemed to him safe and substantial. This work lasted—for reasons so old as to be long since forgotten—just four years, and was preceded by a certain very definite amount of drill of much the same kind, which was regarded as a necessary preliminary to the other work."

Granting that this statement misses the spirit and flavor of the old college, it must be allowed that it stops short of a caricature. The inspiration of the old college did not lie in the curriculum, but in the rare personality of the teacher. Every college, however small, could boast of at least one master. The principles to which I have referred as characteristic of the most recent educational development have made themselves felt in the curriculum. College education is no longer entirely a matter of personality. Much as I hesitate to say it, it is doubtless true, that a college man can get more out of the class room today under the routine teacher, than he could have gained under the old system. In other words the curriculum itself with its increasing opportunity is an increasing inspiration. The spirit of research in so far as it has passed over from the university into the college has done much to vitalize the college. The contribution from the side of utility, forcing new and interesting subjects into the old curriculum, has broadened the scope of the college. And the principle of economy, as it is now at work in the secondary school, is not only gaining a certain amount of time, but what is of more value to the college, it is creating a habit of mind greatly needed in the college discipline.

Now, if it were merely a question of the prosperity of our colleges, we might stop at this point and say, "things are very well as they are; let us take advantage of the situation and wait the result; by and bye, if our colleges increase sufficiently in numbers and in endowment, to allow appropriate changes in method, let us change the name."

I assume that the prosperity of an institution, or of a class of institutions, is of very little account, sacred as the historic result may have been in any case, when compared with the broad question of educational progress. Certainly the development of any institution under one type or another is entirely subordinate to the question of the educational value of the type. Nothing can justify insistence upon a type except its power to contribute something distinctive and original.

I return then with renewed urgency to our inquiry about the

present value of the college idea. Will the college continue to exist and flourish through the enrichment of its life from other sources, or will it reassert its place in the educational system through the recognized value of its own distinctive idea.

If we accept President Gilman's division of education into the essential, the liberal, and the special, we have little difficulty in locating the work of the college. All the departments of education must overlap, any division is largely a matter of emphasis; but I suppose that the college is allowed to stand for breadth, freedom, culture, as clearly as the technical school for utility, or the university for research and the advancement of knowledge.

The reassertion of the distinctive college idea seems to me to be called for at the present time at these points.

First, to make the subject matter of the new education tributary to culture as well as to utility.

The natural and physical sciences and the modern languages have won a place in the college curriculum. They are there and so far as time is concerned in full force, but it is still an open question for what purpose they are there. The tendency is toward utility. Perhaps the subjects gravitate that way. The modern languages may be used as tools quite as much as for the literature which they hold. I presume that the majority of college men read French and German to gain access to current discussions in science or philosophy or criticism. This is legitimate. So also is the study of the sciences for after uses. Still it is the province of the college to put the emphasis on culture, not on utility, in the treatment of anything which comes within its range.

I can think of no opportunity which can again present itself, equal to that now before the colleges, of subjugating science in the interest of culture. No task of like magnitude, of like interest, or of like honor, has ever offered itself. Heretofore the college has not been obliged to wage any contest for its subject matter. Everything has been in easy possession. No interest, like utility, has laid claim to the ancient languages, or pure mathematics, or philosophy.

Now, subjects are at hand, they are actually within the curriculum, which are elsewhere set in a thousand ways toward material values, concerning which the college may prove that they hold the element of culture. Who can doubt the element of culture in the sciences. What faculty do they leave untouched or undeveloped? At what point in the refining or even spiritualizing of the nature can they be rejected?

In an address delivered two years since at Baltimore before the American Society of Naturalists, Dr. Minot, of the Harvard Medical School, drew the following contrast between the optimism of the scientist and the pessimism of the literary man.

"The best," he says, "that we gain from the pursuit of research is, I believe, our characteristic optimism. We are engaged in achieving results, and results of the most permanent and enduring quality. A business man may achieve a fortune; but time will dissipate it. A statesman may be the savior of a nation; but how long do nations live? Knowledge has no country, belongs to no class, but is the might of mankind, and it is mightier for what each of us has done. We have brought our stones, and they are built into the edifice and into its grandeur. My stone is a small one. It will certainly be forgotten that it is mine, nevertheless it will remain in place.

"How different is the pessimism toward which literary men are seen to tend! Harvard University lost James Russell Lowell in 1891, and Asa Gray in 1888. The letters of both of these eminent men have been published. Lowell's letters grow sad and discouraged, and he gives way more and more to the pessimistic spirit. Gray is optimistic steadily and to the end. The difference was partly due to natural temperament, but chiefly, I think, to the influence of their respective professions. The subject material of the literary man is familiar human nature and familiar human surroundings, and his task is to express the thoughts and dreams which these suggest. He must compete with the whole past, with all the genius that has been. There is nothing new under the sun, he exclaims. But to us it is a proverb contradicted by our daily experience."

I have quoted this extract, not because I accept the contrast, but because it sets forth so clearly the reflex influence of the study of science upon the student as it appears in his own consciousness. The influence is distinctly moral. I have for a long time advocated the study of at least some one science as preparatory to, if not as a part of a theological curriculum, partly to enable the preacher to come into natural contact with the mind of his age, but chiefly for the effect on himself, on his temperament, on his reasoning powers, and on his imagination. And in consistency with this view I deprecate any impression which may be allowed to obtain that for a college to remain in the truest sense a college it must revert to the curriculum of a classical school. That is to put the means above the end. The end of the college is a genuine culture. The classics are well established means to that end. But whatever can be made a means to that end is germane to the college. And to put by, or to underestimate, the sciences as fulfilling that function is in my judgment not only to deny a great opportunity, but to evade a great educational responsibility.

The reassertion of the distinctive idea of the college is also timely as a protest, or better still, as a barrier against premature specialization. I do not regard the introduction of the elective system into the college curriculum as a concession to specialization. The object in each is different. The elective system teaches a man to find himself. Very likely it may be overused, that is, it may lead to overmuch self experimentation. Or it may not be used sufficiently. One may follow the lines of least resistance. But rightly used it gives the scholar the courage of his choice. It is an academic tonic. It emphasizes the responsibility as well as the freedom of all true scholarship.

Specialization is the commitment, the intellectual or educational commitment to a definite purpose. It means more than the choice of a profession. That may allow a long approach. Specialization is an immediate and final end in study. It is a process of restriction. It calls in all the powers of a trained nature. It assumes that they are ready for service. If they are

untrained, it allows no other training than that which they can gain while on special duty.

No one can fail to note the vast amount of crude and uncertain work which is going on under cover of specialization. That, however, is to be expected, and not altogether to be deplored. From the nature of the work there must be a large proportion of apparent waste.

The educational crime is not unsuccessful specialization nor overmuch specialization, but premature specialization. That is the foe which has invaded education and which is today robbing it of the gains of the past years. Professional study has become to an unwarranted degree prematurely specialized study. A very considerable proportion of those who enter the professions are, judged by all educational standards, unprepared men. The professions no longer represent education. They stand for training, not for learning. Professional schools are technical schools. In 1880, out of 18,000 students in schools of law, medicine, and theology, only 58 per cent. had received a degree in arts or science. Possibly later statistics, which I have not been able to find, may show a slightly different result. And efforts are being made in certain directions to stem this retrograde movement. Harvard is leading a reform for the elevation of the requirements for all of the professional schools; the legislatures of nearly all the states have made absolute demands for preparation for medical schools, not very high, but uniform, and somewhat in advance of the old standards; and the better theological schools, never careless in their requirements, have taken advantage of the present apparent surplus in the ministry to make more careful inquiries into the standing of all applicants. One of these schools reports this year that there is not a man on the list who is not a college graduate.

But this effort for reform from the side of the colleges and universities and from the state is met and largely neutralized by the tendency in some of the professions. The tendency is to put the stress in preparation entirely upon the technical. I doubt if the average medical school, apart from state interference,

would call for anything more than easy Latin, enough chemistry and physics to understand experiments, and passable English. Even under the present legal requirements I question whether the standard of admission can be brought up to the standard of admission to college. The excuse offered is the claim for time at the latter part of the course for high specialization. But the great majority do not specialize at any later time. They are not qualified for it. When the time comes for it, they have no time for it. One becomes very impatient over this excuse of want of time. To what better use can a man put time than to take enough of it to get ready for his business.

A partial remedy for this state of affairs may be found in proper adjustments between college electives and professional courses, but the true remedy must come, here as elsewhere, through the appeal to public sentiment. In some way we must put a new emphasis on breadth and thoroughness of training. If we can get the college idea vigorously at work without the college, very good. But let us recover and restore the idea at any cost. Let us put the burden of proof on the professional man who enters his profession along short cuts, and by side doors. Let him explain why he should take this course instead of asking us why he should not take this course.

I would like to see men who are aiming at their professions by short and easy steps left in the dilemma in which Dr. Bancroft put one of his old Phillips' boys. The student came to him after two years at Harvard to tell him that he proposed to save two years, and enter at once on the study of his profession. "Save two years," said the Doctor, "it will take more than two years out of your life to explain why you didn't graduate."

I think that I do not go too far afield when I find occasion for the reassertion of the college idea in some deficiencies in the public life of today.

An educational writer has recently said, and with unusual insight, that "the difficulties of a democracy are the opportunities of education." This saying naturally points to the expert in economic and social problems. Doubtless this was its first intent.

But in our anxiety to secure men qualified to lead, I believe that we have overlooked the necessity for men qualified to follow. I think that I should be willing to say that the greatest present necessity in our social and political life is the necessity for the intelligent, discriminating, and courageous support of wise men and of wise measures. There is too wide a gap between the best leaders and the multitude. The man who gives his whole time and trained intelligence to the public good ought to be able to count on the discriminating judgment of a much larger body of people than is now at command in any community. Sometimes it seems as if we were not gaining in the art of forming and holding an opinion, an art which ought to be one of the distinctive products of a liberal education. It is at times humiliating to note the ease with which a man, who has presumably gained the habit and the material for independent judgment, falls back into the mass and becomes one more reflector of the passing sentiment. But the process of training men toward broad, intelligent and independent action must go on, it must greatly increase its results, else we shall become the easy prey of shrewd manipulators. It is not enough to have experts and specialists, however capable they may be. The more capable they are, the more useless they are, unless there are enough to understand and support them. Or to put this statement into educational terms, if we are to carry out our university ideals, we must extend the range of our college ideals. Special intelligence must be supported by general intelligence. There must be a habit of mind which is set toward general intelligence, interested in the whole as well as in some part, alive and alert toward the interests of society at large. A very considerable amount of ignorance and indifference may exist in close conjunction with special attainments. When I was on the Andover Faculty, a club was started among the women of Andover, which soon became noted for its brilliant discussions. After a little the wife of one of our professors remarked: "If our husbands don't stir about, they will be too ignorant to associate with."

A friend with whom I was talking on this general subject a few days ago, a careful student of literature, ventured the statement that one ground of the decline in the literary production of this country was the diversion of so much study into special channels. Neither investigation nor criticism are giving the requisite stimulus to the creative energies. I am unwilling to generalize upon so mysterious a subject as the evolution of genius, especially of literary genius. One may easily misplace his sources, and put second causes into the place of first causes. At a Dartmouth dinner in New York, one of the older graduates who had been descanting on the greatness of Webster as due to his college training, was suddenly brought to task by the reply of one of the irreverent youngsters: "The greatness of Webster due to Dartmouth College! the greatness of Webster lay in the width between his eyes and in the hang of his jaw."

The sources of literary genius are not easily laid bare. No one can point out with certainty the fructifying soil. But as an expert would not look for gold in certain strata, neither would one expect to find the literary impulse among the incentives which are producing technical, professional, and specializing methods of thought. Somewhere in the region and atmosphere of a more general culture the seeds of a more abundant literature must be silently germinating.

I have reserved the exact reference to my subject, the integrity of the college unit, to the close of the discussion, because I wished to give it the benefit of a conclusion rather than the details of an argument. If the time has come round for the reassertion of the college idea, the idea will protect, though it may reform, the unit. Form is necessary, and is made safe by being held in its place. I have no fear for the integrity of the college unit, if the time is near at hand for the reassertion of the idea. How much longer the unit can hold against the advancing and crowding forces all around it, friendly though they be, without a reaffirmation of the idea, I cannot tell. With the secondary school pushing with strong hand from below, and the

university penetrating with silent force from above, the college may be said to be very much in the hands of its friends.

This much, however, is apparent in respect to time, if we are to maintain the formal integrity of the college unit: either we must change our estimate of the period which can be allowed to educational uses, and place less insistence upon the shortening of time, or we must define the limits of each part of the educational system with more regard to every other part.

I believe that we have reached the time when no more advance should be made in requirements for admission to college apart from the attempt to equalize the courses leading to the different degrees, unless the advance can be gained through the economy of studies in the elementary schools. If we add requirements, trusting that somehow the way will be found to meet them without advancing the age at which students are delivered at the college door, we shall find that only here and there will the right way be found. The college will inevitably suffer at the point of thorough preparation, against which it is not altogether easy under the best system of admission to protect itself, or the college will see the advanced student pass by its doors into professional study.

I think, too, that the whole educational situation is somewhat changed by the transfer, in so large degree, of the work of the secondary school from the academies to the high schools. The academy or school which draws students from their homes, anticipates to an extent the social, and even moral, function of a college.

The high school does not disturb the social relations of the pupil. With the increase in the preparation of college students from high schools, the college becomes in all its social and ethical influences and incentives a greater necessity to our educational system. I believe that this point must be fairly considered in the adjustment between school and college.

The adjustment at the other end of the college curriculum, though apparently beset with difficulties, is, I believe, really less difficult. A great many of the subjects which would fall into

the last year of the college or the first year of the professional school, are neutral subjects. They can be treated in either connection, according to the facilities which a given institution may offer. This fact is especially evident in the relation of the college curriculum to medicine, and measurably clear in the relation to law and divinity.¹

But I am not so much concerned with the adjustment of time as I am with the acknowledgment and enforcement of principles and ideas.

The college unit stands for an idea, guaranteed by a degree, and is, therefore, entitled to sufficient time to make good the demands which fall upon it. In education traditions are precious, but they are subordinate to present values. My contention is that the college exists not by tradition only, but by present values; and that, by as much as it has received through the incoming of other methods and other principles, by so much it is now prepared to give in return, through the reassertion of its permanent and distinctive idea.

At the close of the address the members of the association and their guests adjourned to a lower room, in which refreshments had been provided, and passed an enjoyable hour in social converse. The arrangements for this social gathering were under the direction of Professor Thomas B. Lindsay, Dean William E. Huntington, and Professor Joseph R. Taylor, of Boston University.

SATURDAY MORNING

The association was called to order at 9:15 by Vice-President Edward G. Coy. Shortly afterward President Bancroft took the chair.

The first speaker was Professor John H. Wright, of Harvard University.

THE THREE YEARS' COLLEGE COURSE

The proposition that the college course for the degree of Bachelor of Arts might well be made a three years' course,

¹ As the subject of the shortening of the college course to three years was the

instead of the traditional four years' course, has now for about ten years, for good reasons, been associated with Harvard more than with any other institution. The president of the university has urged it, at least for his own college; the faculty has given the subject repeated attention, and in fact has recommended the measure. Hence it is proper that the person selected to lead a debate in support of it should be a Harvard professor; and his discussion, to be fruitful and practical, should be carried on primarily from the point of view of Harvard College. The best Harvard officer for this duty (if President Eliot declines it), at least for this audience, would be Professor C. L. Smith. He is a leading member of this association, and Harvard's representative in the affiliated Commission on Entrance Examinations. As dean of the college he has given the question most careful consideration. But Professor Smith is this year in Europe and cannot be with us. I have been asked to take his place. Though I have hesitated to accept the invitation, I have found it easier to undertake the task because of the facts he has marshaled on the subject and the arguments he has brought forward.

Though I am here, then, as an officer of Harvard University, it must be understood that I speak only for myself. A colleague would doubtless urge other considerations than mine, not only in a different perspective but more cogently. I can merely throw out a few hints and suggestions; the occasion and the time at my disposal make impossible an exhaustive discussion; indeed, some important phases of the question—notably such as are disclosed upon a comparison of our organization of liberal education with that in foreign lands—I must leave untouched.

The idea of the three years' college course in America is not a new one. In fact it is older than that of the four years' course. When at the founding of Harvard College the work for the first degree in arts was arranged, it was provided, in imitation of English usage, that candidates of two years' standing might come up for the degree, and for some time afterwards

special order for the following session, any discussion of that subject, however germane to the subject of this paper, was naturally excluded.

the Harvard course for the degree of Bachelor of Arts was not longer than three years. Before the beginning of the eighteenth century, however, it was found expedient, in view both of the deficiencies in the preliminary training of the young men who came to college, and of the lack of facilities for this training outside of college, to increase the time spent in the arts' course from three years or less to four years. This four years' course has become a tradition, and has maintained itself ever since, though the conditions that demanded it have in large part ceased to exist. Nearly all the American colleges—at least until the present century—were modeled after Harvard, either directly or indirectly, and they adopted her four years' bachelor's course. (Let me say in parenthesis that the various names of the college classes appear to contain a reminder of a three years' course. We have Freshmen, Sophomores, Juniors, formerly Junior Sophisters, and Seniors, formerly Senior Sophisters. That is, the men of the three years would have been respectively Freshmen, Sophomores, and Sophisters.)¹ It has been left for men of the present century to seek to break with the tradition. Three names eminent in American education—not now to mention others—stand forth associated with this movement for the reduction of the college course from four years to three years,—the names of President Wayland, of Brown University; of President Gilman; of Johns Hopkins University, and of President Eliot. In 1850, at the instance of President Wayland, the authorities of Brown University defined the amount of study for the degree of Bachelor of Arts as "something *that may be accomplished in three years*, but which may, if he pleases, occupy the student profitably for four years." The ancient names of the college classes were dropped, and students were classified as "undergraduates of one year's standing," "of two years' standing," etc. In 1876, when Johns Hopkins University was thrown open, the undergraduate course for the degree of Bachelor of

¹ In Cambridge University, England, the first year men were known as Freshmen, the second and third year men as Junior and Senior Sophisters respectively. The "Sophomore" is perhaps an American institution, if not an American invention.

Arts was arranged as a three years' course, the requirements for admission, however, being made somewhat higher than those of other colleges at that time. President Eliot has been interested in the movement since 1886. The conditions and considerations that led these distinguished men to seek to effect a change appear to exist today even to a greater extent than ever before. What are these conditions? What are the elements of our problem?

The elements of the problem are chiefly connected, first, with the preparatory training of youth for college, or our best secondary education, and, secondly, with the present and future status of training for the professions and of the so-called graduate courses of instruction.

The college course of study for the bachelor's degree at present usually lies, in point of time, between two other protracted periods of strenuous study, or at all events after one such period,—a long period of preparatory training on the one side, and a long period of professional study on the other. It was not always so. Until our day, the preparation for college, while severe, was simple and of an elementary character, and could be completed by the average boy before his sixteenth year. On the other side, for the professional training in law, medicine and divinity, never more than three, seldom more than two years were required, and for one great profession, that of the scholar,—whether teacher or original investigator,—no professional training whatever was provided. The result was that twenty-five or thirty years ago the average age at which college-bred men, who had received a professional training, might begin to earn their livelihood, was not far from twenty-three. A great change has come about, the effect of several causes. There has been, first, an enormous increase in the requirements for admission to college, and, secondly, a postponement of the age at which students can enter college. The first change—the enormous increase in the requirements for admission has brought about that a complete preparatory course for our best colleges (taking all the studies together) is today in its range and reach almost if not quite the equivalent of the college

course of a century ago. Both in quality and in quantity there has been a constantly increasing demand upon the secondary education.

A comparison in detail of the entrance requirements of Harvard College in 1856 and 1896 shows that from one to two years more are required to do the work demanded in 1896 than were necessary to complete the requirements in 1856, such subjects as elementary English, French (or German), solid geometry (or an equivalent), and physics, being distinctly added, not to mention the very substantial enlargement of the work in the ancient subjects.

It is unnecessary for us to ask whether this increase is due to the demands of the colleges or to the fact that the secondary schools, high schools and academies provide it at their own instance. Whatever the cause, the increase is something we must reckon with. Our secondary schools have a most extended course of study; only upon the completion of it can young men enter college.

The effect of this great increase in the requirements for admission is twofold: first, the age at which students are ready to enter college has been raised from sixteen to about nineteen; secondly, as I have already remarked, a very fair education is provided in the secondary schools — a much richer, if not better education than that which had been obtained by the boy of half a century ago before he entered college.

When we turn to the training demanded of professional men, we find a corresponding difference and increase. The best professional schools of law, medicine, and divinity, exact in our day of their students, at least three years and some of them are adding a fourth or even a fifth year to their course of study. Further, in the graduate departments or graduate schools of our universities we have not only seminaries for the higher liberal learning but also professional schools — professional for teachers in colleges, universities, high schools and other institutions of learning, and for original investigators in science, history, and literature — where at least three years of work, generally three or four

years, must be done by the candidate after he has received the first degree in arts, before he can proceed to the degree of Doctor of Philosophy.

In character, too, have these professional courses greatly changed. The splendid advance of science in this century—legal, medical, historical, philosophical, philological—has made itself felt in the great professional schools, which are no longer technical schools, teaching a superficial empiric facility in an art, but rather schools of scientific learning and liberal research, imparting in the mastery of a science new intellectual vision and faculty. Now the effect of all this is that our college-bred professional student emerges (on the average) from the professional school into active life hardly under twenty-seven or twenty-eight years of age.

Of what the college has done in the meantime, I need not speak in detail. It is enough to say that she has extended her domain and the sphere of her interest far beyond their earlier limits. She has opened closed doors wide to new truth, and in brief has made liberal education coextensive with liberal knowledge. Indeed, so broad is the field which she has spread out before the college student, that in the time at his command it has become impossible for him to do more than survey a segment of it and to explore more than a small fraction of that segment. She has incessantly modified her curriculum—from its ancient form of a little Greek, a little Latin, mathematics, and the elements of philosophy and of some of the sciences, expanding the old and adding the new—with a threefold result. In the first place, what she has specifically prescribed for all students has been not only increased in variety and in quantity, but has been made more and more difficult, so that the entrance requirements to college have risen little by little to meet this demand. In the second place, the conception of a college course as made up of a certain number of specified studies, done in a set sequence in a set period of time, she has completely shattered. She has taught us that many roads lead toward the Rome of what we call a liberal education. Further, in the third place, she has

added constantly to the facilities for study and research, introducing new branches of science and learning, until it comes about that there are now (in such colleges as Yale or Harvard) offered the student in amount some fifteen or twenty times the instruction he can himself receive, and much of this of a very advanced character. She has brought home the truth that after the student has completed the work in his power within the period of his college course, there is still before him and awaiting him a vast body of liberal learning which stirs his ambition, and often demands his devotion. It reminds him that the bachelor's degree is after all only a first degree in arts, and in the natural course of development she has brought into being a higher stage of liberal education—that which for want of a better name we call “graduate study,” what President Tucker last evening described as “university” study. In fact, as Professor Smith has said, “the course of liberal training is now no longer a matter of four years, but of five, six or seven years.”

These, then, are the features of the present situation—a preparatory course which keeps our youth at school until they are nineteen years of age, a college course which keeps them in college four years longer—even then with imperfectly fulfilled ambitions for liberal study—a professional stage of training of from three to four years. Your college-trained professional man is from twenty-seven to twenty-eight years of age before he goes into life. The period of infancy is prolonged most unduly.

What is to be the outcome? If this system remains as it is, these results are likely to follow: Men will pass directly from the secondary schools to the professional schools and will omit the college course. That is, the professions will be more and more recruited from men without college training, and the college as a preparation for the professional school will sink in importance, especially as the secondary instruction furnished by our high schools and academies is improved. The resort to college will in general diminish, and those mainly will seek a college education who have leisure and wealth and can wait.

It is a question whether this change is not even now in

progress. Are as many men, relatively speaking, going to college today as fifty years ago? Other things being equal, with the general increase and diffusion of wealth, with the sharper demand for the best educated men in the professions, the proportion of college men in the community should increase instead of fall off. It should at least keep up with that of professional men.

The importance of a sound college training for as many as possible of our young men, without differences due to wealth or other adventitious circumstances, I need not urge in this presence, especially after the eloquent and impressive words we listened to last evening. It is only as a considerable proportion of her citizens are educated in the largest way that the republic can fulfill her destiny or even maintain her existence. We need many men in every community educated solidly and broadly, men of disciplined, well-informed and open minds, able intelligently to face the grave and intricate problems of modern society and life,—thus educated to leadership. We cannot afford to allow the college to sink in importance; rather than suffer the college to cease to be a supreme attraction for all ambitious young men of good parts, we must be willing to make concessions, at least such as will not threaten her integrity or mar her ultimate usefulness, certainly such as will strengthen her in the community and perpetuate her influence. We are in a better position to make concessions now than ever before, with a vastly enriched secondary education, with a liberalized professional education, and with the great opportunities for advanced study that are afforded in the graduate departments of our universities.

If we are to make the changes that will draw to our colleges the largest possible number of men and keep them there a convenient season, sending them out into life at a suitable age, and not when in comparison with other young men they make the appearance of belated laggards in life's race, we must do at least one of three things. We must shorten either the period of preparation for college, or the period of college study, or that

of professional study. The first of these three things—the reduction of the time of the preparation for college—could be accomplished in one or in both of two ways. We might either crowd or condense the present requirements into a shorter period by a wise and more economical distribution of the work throughout the whole extent of the boy's education, or we might lower the requirements for admission. The result of either process would be the admission to college of young men a year or two younger than they now enter college, at about sixteen or seventeen instead of eighteen or nineteen.

That something can be done in the way of condensing the present requirements into a shorter period, I dare say we all will agree. It is one of the burning questions of the secondary education today. But when we consider the extent of the college requirements, whether very much could be done in this way is more than doubtful. That on the other hand we should undertake any substantial reduction, in quantity, of the college requirements I for one do not hope nor desire. At present these requirements represent as a rule the most and the best that the better high schools and other secondary schools can do in the way of furnishing an education—President Gilman's "essential education"—for the young people of our communities, many of whom can never expect to go to college. To reduce materially the requirements for admission would be to lower the standard of performance of the schools. It would strike a blow at popular education. It might increase the number of persons to go to college, but it would do this to the injury of a very much larger number. No! We cannot afford to take the alternative of materially reducing the requirements for admission.

The third step—that of reducing the period of professional training—is absolutely beyond our power, even if we were disposed to take it. The tremendous demands of society for men with the most thorough and extended professional equipment, the keen competition that exists in all the professions, the enlargement of the scope of the professions, due in part to the

enlargement of scientific knowledge, in part to the general expansion of modern life—all these things will tend hereafter to extend rather than to abbreviate the period of professional study. The experience of foreign nations shows this most conclusively.

There seems, then, in my opinion, but one thing to be done—we must so compress or reduce the college course that men may be enabled to complete it in a less period than four years; in short, we must establish as a natural and normal thing the three years' college course.

Some such general considerations as these, with others that I shall incidentally name later, have led the friends of the three years' course in the Harvard faculty to undertake the practical solution of the problem for students in their college. It is worth while to state here in outline what this attempt has been, although the attempt has not been wholly successful.

The work prescribed for the degree of Bachelor of Arts in Harvard College is now made up of eighteen so-called "courses" of instruction, distributed roughly as follows:

5 in Freshman year; $4\frac{1}{2}$ in Sophomore year;
 $4\frac{1}{2}$ in Junior year; 4 in Senior year.

Each "course" consists of three hours each week of lectures or recitations throughout the year, and each of these hours normally requires on an average not less than two additional hours of private, preparatory or supplementary study or of laboratory work. Thus in Freshman year the student has regularly fifteen hours' recitation or lectures each week, with thirty more of study or laboratory work—forty-five in all. In Sophomore and Junior years the number of hours each week becomes approximately thirteen and a half for lectures and recitations, with twenty-seven additional—forty and a half. In Senior year, we have twelve hours, with twenty-six additional, thirty-eight each week.

Now we have found that, in our flexible system of elective studies, many ambitious and capable students are able to do, and often do very well, more work than this, and that by the end of the college year some of them will come out with a credit

of five or six courses instead of the five, four and a half, and four, that are required of them. Thus at the close of the Junior year some of them will have to their credit eighteen courses, an amount accomplished in three years that their less active classmates are taking four years to do. Men, further, who at entrance are able to anticipate a part of the work of the first year and to pass examinations on it, find it still easier to complete the eighteen courses in three years.

What happens then? What do we do with the men who have completed these eighteen courses in three years? In the first place, the cases of all such are treated individually, and are carefully examined by the dean and administrative board of the college, as they formerly were, by a special committee charged with this duty. Men who at the end of Junior year have completed eighteen courses well, and can show cause why they should be allowed to leave college then, are either recommended for the degree of Bachelor of Arts at that time, if they desire it, or obtain leave of absence and receive their degree a year later with their four years' course classmates. Many such students, while on leave of absence, enter a professional school or the graduate school. Other students of this category, who prefer to remain in residence as Seniors, often continue study on advanced lines, and are able to complete in one year the additional requirements for the degree of Master of Arts (one year or four courses of advanced special studies), having at the close of their Senior year to their credit twenty-two or more courses. They receive at that time the degree of Bachelor of Arts with their classmates, and a year later that of Master of Arts, without further residence or study.

× There are, thus, to sum up, of the students who complete by the close of their third year in college the quantitative requirements for the degree of Bachelor of Arts, two groups, the second being subdivided: First, those who graduate then and receive the A.B. degree; secondly, those who receive the A.B. degree a year later with their classmates, but either are absent from the university, or remain in the university and often do additional

work, upon which some of them receive the degree of Master of Arts two years later.

These arrangements might seem to be sufficient, and for men of exceptional ability, who can crowd into three years good work to which the average man is expected to devote four years, they are perhaps, sufficient; but they are unsatisfactory for the normal student. It has been found that though he can complete the work in three years, this work is more than he can do well in that time. Hence the faculty, as far back as 1889 was led to take an additional step: it then recommended that the total requirement for the degree should be slightly reduced, should be made sixteen instead of eighteen courses, believing that while eighteen courses made too large an amount to be covered well in three years, sixteen might be so covered. Put briefly, the faculty recommended that the requirement for the degree should be reduced by one-ninth. This recommendation was opposed by a strong minority of the faculty, but was adopted by the corporation; it failed, however, to receive the approval of the board of overseers, and, of course, has never gone into effect.

The three years' course at Harvard, as now actually provided, consists, then, in the permitted compression of the work of four years into three. The three years' course which many members of the faculty would like to see established is one where students should be allowed and encouraged to do in three years work hitherto done in three and a half years.

Experience has shown that the three years' course is practicable, at least at Harvard College. I believe when all the considerations, pro and con, are weighed, it will appear to be desirable, certainly for four-fifths of the students in college—that is, for those who expect to continue their study either in the professional or in the graduate school; and expedient for the others—one-fifth the number—who, for various reasons, must enter active life at once.

I will not, of course, deny that a student can do more and gain more in four years than in three, and that there are some advantages to some students in deliberately browsing through

college ; but with the great advance in entrance requirements, and with the serious character of college work, it becomes a grave question, quite independently of the considerations thus far urged, whether, after all, the fourth year would not be better spent in other associations than those of undergraduate life — in the professional school, in the graduate school, where, for many different reasons, a different atmosphere prevails. And there are in every college not a few men, greatly benefited by the associations of college life and entitled to recognition, for whom four years in college is altogether too long a period. Their age, or their temperament, makes it highly desirable that they should not too late be subjected to the responsibilities and higher education of active life.

The privilege of completing the college course in three years, now open to Harvard students, though still under unfavorable conditions, has not as yet touched a large proportion of the undergraduates ; and, indeed, the three years' bachelor's course is, for various reasons, unpopular with college students. This is, I believe, one of the signs that there is little danger that the period of truly liberal study for the great mass of students, at least for those who can most profit by it, would be diminished if the course were shortened. The first degree in arts obtained in three years, many young men will find it natural to seek to proceed at least to the second degree (if not further), and to devote one or two years to study in the graduate departments of our universities there to qualify themselves for their work as teachers, as writers, as men of science, far more effectively than if they had remained in the college as undergraduates. This increased resort to the graduate schools would tend to develop and strengthen the higher learning with us, a consummation devoutly to be wished ; it would provide leadership for the leaders in modern society and thought.

The danger to our higher education to be apprehended from the general reduction of the college course to three years, is to be apprehended only in the case of colleges where the entrance requirements are below the provision of our better secondary edu-

cation, or where high entrance requirements cannot be rigidly enforced. Such colleges must keep the four years in order to maintain the integrity of the system. The first year, in these instances, must be one in which, as an eminent professor once described the Freshman year in his college, "the young men are licked into shape." But let us hope that the day is approaching when all our better colleges shall have similar requirements for admission, which shall be identical with a suitable amount of the best work in our high schools and academies. Then can all the colleges proceed hand in hand. The precious fourth year will not be lost. The better colleges, even the smaller ones, by the intellectual necessities of the life of the competent college professor, will provide for the more ambitious of their students, as they have already provided, from one year to two years of advanced liberal study beyond the requirement for the bachelor's degree, and will mark the satisfactory completion of the studies of this supplementary period by the bestowal of the degree of Master of Arts.

I have, I fear, only outlined an argument in support of the proposition upon which I have spoken. There are other arguments, other considerations; but these are the considerations that have led me, as a member of the Harvard faculty, to seek to render it easier for college students to complete their course in three years. The controlling motive in all this movement is the desire to make the college more and more of a power in our national life.

The second speaker, upon the same subject, was Professor Thomas D. Seymour of Yale University.

THE THREE YEARS' COLLEGE COURSE

As we listened last evening to President Tucker's charming address, I thought that after his convincing statement of the important function of the college as a bulwark against the dangers of specialization, I might almost say with "my double," "there has been so much said, and so well said, that I will not

further occupy the time." But after the persuasive words of my friend Professor Wright this morning, I suppose I am bound to perform the service which was assigned to me by our executive committee.

I too must disclaim being a representative of the views of my college. I have hardly heard this question mentioned in New Haven since it was last discussed by this body. It is not at present for us a very lively question.

Never before has the demand for men of marked ability, well prepared for work, been so loud and imperative. The world seems to have little need of men of mediocre powers and insufficient training, while a man who is ready to do first rate work will not have to wait long for his opportunity. Men engaged in the active affairs of life tell me that they know of places standing vacant, ready each with a salary of ten, fifteen, or even twenty thousand dollars, for a man who could at once perform the duties of the office. Every large college or university has some vacant chairs which would be filled in a week if the right men should be found.

Yet the pressure of modern life and the contest for a living place are much greater in this country now than ever before—though not yet so fierce and heavy as in Germany. This pressure and contest doubtless tend to make later and later the age at which a man can establish himself with independence in his own home. The young man now needs a larger capital for a start in life than his father had before him. A man of wealth, who had won for himself all that he possessed, on being asked recently how much capital a young man would need to give him as good opportunities as he himself had had, beginning with nothing, to make a fortune, said "not less than \$100,000." Others have confirmed this opinion.

This principle is just as true of mental as of pecuniary capital. A young man needs more now than ever before. A classmate of mine two years after graduating from college was made probate judge in the largest town in Dakota; but I do not suppose that any graduate of the last class at Yale will have so important a

judicial position within two years. This classmate was made probate judge before he was really ready to pass an examination for admission to the bar, not because he was fit for the position, but because no one more fit was at hand, and men hoped that he would learn to perform the duties of his office.

Another classmate, at the age of 22, was appointed to one of the most important consulates of the United States in Mexico—without any political influence—not as being fit for the place, but because he could speak a little Spanish and might learn his duties. Such a young man now would not be considered as candidate for such a place, without overwhelming political influence. My own case, too, is typical: Two years' study of philology at the universities of Leipzig and Berlin, with a visit to Greece, gave me a distinct advantage over most of my comrades who set out with me in the race of active life. But two years of graduate study are considered necessary now for a young man or woman who is to have a good place as teacher in an important secondary school, and confer no special advantages. My son will need five years of graduate study if he is to have as good opportunities for advancement as his father had. College teachers are not promoted to permanent professorships at so early an age as formerly. Near the beginning of this century the first president, Timothy Dwight, caused the appointment as professors of three men, each of whom continued in the service of the college for at least half a century, and who amply justified the wisdom of their selection—Jeremiah Day, Benjamin Silliman, James Luce Kingsley. Each of these received his permanent appointment only six years after receiving his degree of Bachelor of Arts. No one of them had enjoyed any special training for his work. They were obliged, evidently, to fit themselves for their positions after they had received them. My own father was called to be the rector of the Hopkins Grammar School of Hartford immediately on his graduation from college. The case of clergymen was similar. New England has not forgotten the name of Leonard Bacon, who was made the pastor of the Centre Church of New Haven when he was but 23 or 24 years old, and remained its pastor for more than fifty

years. I doubt whether any church in New England of the same relative importance as the First Church in New Haven has called so young a pastor during the last twenty-five years. Bacon, too, fitted himself for the duties of his office while he was performing them. The politicians of the world are older than they were two or three generations ago. Think of Fox as Lord of the Admiralty at 21, and Pitt as Chancellor of the Exchequer at 23 years of age; and John Randolph of Roanoke referring to his constituents for information the colleague who doubted whether he had attained the age required for admission to the United States Senate. One of my nearest neighbors—a hale and hearty man whose carriage is far more erect than mine—was a member of the United States Congress 45 years ago. Few of the congressmen of today will be hale and hearty in 1942. Young men have no such chance for political preferment nowadays; they have less chance abroad than in our own country, and less in the eastern than in the western part of our country. Why, charitable organizations treat as boys and irresponsible persons young men of 20 and 21 who in earlier times would have been thought old enough to bear the burdens of a family, and everybody knows that most Y. M. C. A.'s are managed by men over fifty.

A young physician is now obliged to wait years for remunerative practice unless some kind friend in the profession will lend him a helping hand by sending patients to his office. He must practice in the hospitals and among the poor. A young lawyer of brilliant parts is more likely perhaps than his equal in age in any other profession to obtain early success, since he needs only to attract the attention and win the confidence of some one man who may intrust to him the care of large interests.

In addition to the cold comfort that in other countries young men are worse off than here, one remark may fairly be made parenthetically to cheer the soul of the young man of the present day: College graduates live several years longer after graduation than they did a century ago; and thus can afford to take more time for the preparation for their work.

I understand that most of what I have said is trite and com-

monplace. All this has been said in order to show that I too appreciate the stress of the situation which is urged by those who demand a reduction in the length of the college course. I have often congratulated myself that I was born when I was; that I was not compelled to meet the stress of modern competition for place. The young men who are growing up are subjected to severer trials in many respects than the earlier generations had to endure. If their time of education can be shortened without evil results and they can be established in homes of their own a year earlier than at present, every one should be glad. I am not sure that our system is right in all important respects, and believe that much valuable time is wasted. For one thing, and for my own opinion, I hold that our vacations are much too long (an unpopular view to present before a body of teachers! but I mean too long) not for the teacher who will make proper use of his leisure,—but for the boy, who is often fairly demoralized by the long period of idleness. For another thing, I believe the work of our schools is too often set to suit the pace of the dullard or the lazy fellow, rather than that of the lad who is worthy of the best education. I do not agree with Professor Wright in holding that every boy should be urged to go to college. We have all of us seen “five hundred-dollar boys” receiving a five thousand-dollar education, and much time is wasted in the effort to give a keen steel edge to a mind of a leaden texture. I trust the time is near at hand when every young man who has the ability and the will to study shall enjoy the privileges of a college education, but I would not have the advance of those who have mental strength and endurance, coupled with ambition, retarded for the sake of those who cannot or will not study. In this matter too much regard has been had for the dull mass, and not half enough for the worthy few. And students in college are not alone in being distracted by many engagements. A very good fellow failed in his examinations at Yale the other day because he had been in charge of a football team, a glee club, and the Y. M. C. A. in a large and favorably known school. According to my observations, boys

who are going to make their mark in a profession can be ready for college much earlier than they are, although some good minds mature late and slowly. If a boy is ready for college at 17, takes his degree of Bachelor of Arts at 21, and is ordained to the Christian ministry at 24 years of age, he is nominally ready for his life work quite as young as he should be put in charge of a church; he is younger than most men desire as a pastor. If the young man spends four years in the study of medicine in this country, after leaving college, and one or two years abroad, he will have time still to display his modest sign and exercise patience before many families will care to call him even to treat a case of measles.

The American public is not crying for *young* men. Compared with half a century ago our people have a distinct distrust of young men. The demand of the day is for *well-trained* men of broad views. Some young men, some ill-trained men, some narrow-minded men find good places for work, and succeed; but the rule is as I have said. Of course this prevalent distrust is not caused by us teachers, but it must be regarded by us. If a physician is not likely to be called to practice before he is twenty-seven or twenty-eight years of age we need not advise him to hurry through his course of preparation, that he may be ready to practice at twenty-five. The cry has been for specialists in every branch of learning; perhaps the popular cry is still for specialists; and we all recognize the fact that the age of polyhistorians is gone. We know of no Scaliger or even a Whewell, to whom one could appeal as an authority on every and any subject. The temptation is strong, since a student must confine himself to a limited field of study, to confine one's self to a very narrow field. By this means a name as a specialist can be sooner acquired. Only the more thoughtful seem to consider that if an edifice is to be high it should have a broad foundation, laid deep in the earth.

The extreme of folly in this matter is now receiving due recognition; young men of good sense and opportunities in general no longer consider the time taken for their college course

as time stolen or robbed from their profession. The sentiment of the community has improved; men see that to enter the law school or medical school at once after leaving the high school is of the nature of the haste which makes waste. Many a young man who has been admitted to the bar as soon as he came of legal age, while some of his school companions were still in college, has seen himself outstripped in the race for preferment, by these same comrades before he was thirty years old, and has learned even then that the higher honors of the profession were not for him. Even in business and manufacturing, a college-bred man has often walked rapidly past those who had years the start of him. The tendency toward specialism in the present day seems to me excessive, and to bode ill as well as good. The minute division of mechanical labor in our day has caused a great increase in mechanical products, but has lowered the mental and moral level of the workman. If the division of mental labor continues, our educated classes will lose rather than gain in the respect of the community. One of the stories which inflame me as a red rag excites a bull, is that which is frequently told about the German professor of Greek who is said to have devoted himself exclusively to the study of the Greek article, and to have regretted on his deathbed that he had not restricted his investigations to the dative case of the article. This familiar story is not only false,—it is not even *ben trovato*. German philologists have been far too wise to limit themselves in this way. In close connection with my own studies I know that the three most distinguished philologists of the University of Leipzig, apart from classical philology, each took his degree in some Greek study. Leskien, the Slavonic scholar, wrote his Doctor's dissertation on Bekker's restitution of the Homeric digamma; Windisch, the Professor of Sanskrit, one on the Homeric hymns; Brugmann, the most noted living authority on comparative philology, wrote his thesis on compensative lengthening in Greek. Surely no one of these men has ever regretted his earlier and broader studies. Some of our most distinguished scientists have been honored for their attainments in other branches of

knowledge, while I never knew a narrower minded man than a chemist of real ability who sought to save time for his specialty by giving himself to that alone from the time when he left school. That all studies should be planned with reference to future work, is right and well, but not that all studies should *seem to young men* likely to lead immediately to greater distinction in Greek, biology, mathematics, or law.

The best preparation is demanded for the conditions of modern life, and if we encourage young men to enter the duties of life with an inferior preparation, we wrong both them and the people whom they are to serve. Perhaps this may be regarded as another commonplace saying, but I believe the warning of caution is needed.

Some who engage in educational discussions at times forget that experiments with the higher education are far more dangerous than similar experiments with primary or even secondary education. If an experiment does not work well in the primary school, no one has been greatly injured; the child's time is not worth very much, and the evil can be corrected later without much trouble. If an experiment in the secondary schools works ill, some college or scientific school is likely to remonstrate soon. But if an experiment in the higher education works ill, the discovery is often delayed for years, after several college generations of men have suffered irretrievably. This is an important consideration which suggests caution in dealing with a proposition to give our educated men one year less of college life than their fathers enjoyed.

Four is not a sacred number—neither is three, any longer—but still the loss would be real if the time of college companionship and study—the period when studies of general interest are pursued in a manly way—were reduced from four to three years. Some of us have seen often that in many respects the fourth year of the college course has been worth more to the student than any of the preceding three, even when this clearly has not been due to the nature of the studies pursued, but to the greater permanence of the relations of college life. Some

of my friends think this to be true today in a more important sense than ever before, because of the increased size of college classes. As in many other things this influence is cumulative. Certain medicines instead of losing their effect become more and more potent as the patient continues to use them, and so it is with the influences of college life.

Many doubtless have wondered that the great leader who has done more than any other to require and induce the preparatory schools to do the work which in the memory of some of us was done in the Freshman year of the college course, and who thus aided to elevate the standard of graduation from college as well as of admission to the Freshman class — that he of all men should be the one to advocate the cutting off of the fourth year of the college course, thus proposing to graduate the student at the point in his course at which he was graduated thirty years ago! Most of us, I presume, have taken both pride and pleasure in the gradual increase of college requirements, although some inconvenience has been caused. Shall we now grant at once that this has been an error? When did the reasons which prevailed a quarter of a century ago cease to be valid? How much friction between schools and colleges might have been saved if Harvard College had said in 1869, "No, we do not approve of raising the standard of admission, and shall not attempt it. Our students on their graduation know quite enough of the general studies of the college course. They have had their propædeutics, and should enter upon their special studies at once." In that case, if that had been said, then joint commissions and school boards, college faculties and gatherings of school-teachers would not have needed to discuss the question whether this subject or that could fairly and without too much friction be added at once to the entrance requirements for college, and to the school curriculum, or whether the increased demand should be postponed for a year or two. As some of you will remember, I have a special grievance in my own department — because the requirements in Greek were raised until half of the Homeric study was taken by the schools. Then, unfortunately for us

Greeks, the disposition to increase the requirements ceased, and men began to talk of a reaction, and of a three-years' college course, with poor Homer half in and half out! If only the elevating process had continued until the secondary schools had taken all of the Homeric study, I should be happier.

But letting bygones be bygones, may not the student spend four years in the preparatory school and three years in college, as well as three years in the academy and four years in college? No. For two reasons. In the first place (though I hardly dare to say this aloud), very many of the secondary schools of the country are not so well prepared to give good instruction as the colleges. We all recognize the great superiority of the majority of the schools which are represented in this body to the average preparatory school of the country. The *average* college could do the work of the Freshman year of thirty years ago better than the average school — although I do not believe that the colleges of that time gave as good instruction in those subjects as the schools are giving today. Secondly, I believe fully that if the colleges and the schools are to divide between them seven years of the student's life, four years of this period should be assigned to the college course, irrespective of the powers and equipments of the institutions. Granting that many young men spend their college life as boys, yet the entrance to college is, with most, felt to be the entrance upon a more manly and independent manner of work. The young man henceforth is thrown more upon his own resources; his responsibility is greater. The longer part of this assumed period of seven years should be spent in the more manly study. Further, if the young man has but seven years to devote to college and professional study, I incline to the belief that he should spend four of these years on the general studies, laying the broad foundation on which to build his edifice of special research and attainment — but I believe in a four years' course for both college and professional school.

A sort of compromise between the claims of college and professional school is not only possible, but actual. To a large degree all good colleges have already arranged to give instruc-

tion which prepares the way directly for professional studies, and they are able to do much of this work better than it could be done in the professional schools. Let us consider the case of the student of medicine. Much more is required now than a few years ago as a basis for medical studies. The young man who is to do the best work in the medical school must be able to read scientific French and German; he should be trained in the use of the microscope, and be well grounded in chemistry and biology, and should know the teaching of the best psychologists with regard to the nervous system. This training and knowledge can be acquired in college better than in the professional school; the colleges have the best equipment for instruction in these subjects. These studies are simply preparatory to a good medical course.

In theology, too, the young man who is to have the highest advantages and make the best use of them may lay in college a thorough foundation for his New Testament Greek in the study of Plato and Aristotle, and should study his New Testament Greek itself from the philological standpoint; he should be well grounded in Hebrew before he goes to the theological seminary, that the study of Old Testament criticism may not be hampered by elementary explanations and observations; his philosophical studies should be sufficiently broad and deep to form a competent preparation for his study of dogmatic theology. Never before, too, has the clergyman needed general studies more than now. That he be a liberally educated man—in the fullest sense of the term—is even more important than that he be an excellent student of Hebrew, dogmatics, and homiletics. The college course is all too short for him to learn all the philosophy, ancient and modern literature, history, political science, etc., that he needs, and to teach him what scientific study really means.

In like manner, while still in college the young man may prepare himself for his study of law, by courses on constitutional history, on political science, and finance, to say nothing of courses on the principles of law itself.

Some may say, however, that they do not propose to cut off the senior year in college, but the Freshman year. The last two years of the college course have or may have too obvious relation to the later professional work, to allow of their excision. Can the first year of the college course be dispensed with? In that case the student is put directly from the preparatory school into courses of study for which he is not mentally prepared. He is still immature, and needs all the training which he receives at present before he takes up the more advanced studies.

In this case if anywhere in life, haste would make waste. If the boy can be carried through the primary and secondary schools with as much thoroughness as today, but with more dispatch, by the use of better methods, with more instruction, and possibly a longer school year—by all means let this be done. But let us not lower the standard which has been reached with so much labor. Evidence is accumulating and clear that the world needs and demands men of greater maturity and better training than ever before. This demand is acknowledged and men are meeting it. Our best professional schools require for admission a preliminary training which would have seemed wholly impracticable a generation ago, and never before have they had so large a proportion as at present of college-bred men among their students. To encourage young men to be satisfied with an inferior equipment for the sake of an only apparent saving of a year's time in the preparation for life, would be an injury to the community, and a still greater wrong to the young men themselves.

PRESIDENT ELIOT: As an advocate of the three years' course for many years past, I should like to make two assertions about my own attitude towards the subject and that of all reasonable advocates of the three years' course so far as I know. In the first place, we think that this question has nothing whatever to do with the expediency of more or less specialization in education. A good deal has been said on that point this morning; but the advocates of the measure believe that specialization might be increased or might be diminished, by the

choice of the individual student, under the three years' plan, just as it can be under the four. We say, therefore, that our position is not to be affected in any manner by an argument for or against specialization in education. In good colleges the student can specialize now as much as he pleases under a four years' course; under a three years' course, in our view, specialization might or might not be increased, might or might not be diminished. Neither do the advocates of the three years' course for colleges admit or believe that the reduction to three years would affect in any manner what may properly be called the thoroughness of preparation for professional study or for the work of life. We advocate nothing of that sort. If you consider the proportions of the different parts of Professor Seymour's paper I think you will perceive that a considerable proportion dealt, chiefly in a humorous way, with this matter of thoroughness, as if a three years' course meant less thoroughness. The advocates of the three years' course do not intend that the adoption of the three years' course shall affect in any injurious way the thoroughness of a young man's preparation for the work of life or for professional study. I think this point can be brought clearly to your minds by presenting to you the order of development of this discussion at Harvard.

When the subject was first broached in our faculty the opponents of the project said almost at once, "We cannot afford to reduce the number of courses demanded in college from eighteen to sixteen, or fifteen as some propose; because the secondary-school work is but a weak and narrow foundation for the college work, and we must continue to do in the college work which the American secondary school fails to do at the right time. To give up two college courses is to surrender one-ninth of the whole college work." The answer to that argument was, "Let us see what we can do towards improving the secondary school instruction, so that we may have an ampler basis for college work: let us begin by going to work on the secondary schools with such forces as we can command." That is just what has been done at Cambridge, and anybody who has observed the progress of American education for the last fifty or sixty years, as that progress is exhibited in statistics and in the personal product of the schools, must see clearly that during the last ten years there has been a great addition made through the efforts of secondary school teachers to the training which the youths receive in those schools. The schools already supply a better foundation for college work, and their pro-

grammes and methods are improving every day. This development of secondary school training in the last few years is one of the most remarkable educational phenomena which I have seen in my time. It affords the greatest encouragement to believe that the American youth of eighteen is to be a much more highly trained person in the future than he has ever been in the past, that he is to be on the average a better educated person than the American youth who now comes to college at nineteen. We have more training underneath the college, and consequently may introduce the three years' college course without reducing the sum total of liberal training.

Secondly, the Harvard faculty have been active in developing, systematizing, and intensifying college work. The elective system has helped them to do this, and the improvements effected represent much more than one-ninth of the college work of fifteen years ago.

As the result of these two efforts the advocates of the three years' course expect the future bachelor of arts, who shall leave school at eighteen and graduate from college at twenty-one, to be a better-trained man than his predecessor of fifteen years ago who entered college at nineteen and graduated at twenty-three.

At the other end of this subject is the development of professional education. Professor Wright has already put that before you in the clearest manner. It is indisputable; and it is going farther. The demand for time for professional education is not going to diminish; it is going to increase; it is increasing steadily; it is something which the community demands, and will have. The interest of all American society is that professional education should be steadily improved, and given added weight in the total course of education. Furthermore, what Professor Wright pointed out has become true within the last twenty years, and it is a great fact—namely, that professional training has in the best schools ceased to be what might properly be called a bread-and-butter or low-motived training; it has become a humanized training, as Professor Wright said, and in the best professional schools the studies are liberal, informing, and developing to the highest degree. The professional departments of Harvard University are far the finest departments of the university. I include, of course, among the professional departments the graduate school. They are the finest in temper or spirit, in the maturity of the men, in the powers they bring thither, and in the powers they carry away. Therefore, the college is to stand hereafter in America between

a greatly improved secondary school and a greatly improved professional school. It can no longer claim to be the sole representative of liberal education. It used to be the sole representative, or at least the sole worthy representative; it is now, and is to be, but one out of three.

Is the college going to last at all? That is a very important question. That is a question which the advocates of the three years' course for colleges have very carefully considered, and they have come to the conclusion that the lasting of the American college depends on reducing its term. What makes them think so? First, the experience of foreign nations. We are not as cultivated a people on the whole as the French, or the Germans, or the English. Can we give any reason why we should be able to maintain a four years' course in American colleges when the French have no such course at all, and nothing corresponding to it, when the Germans have nothing corresponding to such a course, when no continental nation of Europe has anything corresponding to it, and when the English have only a three years' course and very short years at that? Why should we be able to maintain what no European nation maintains? There is only one reason for our maintaining it thus far, and that is that the American college with a four years' course has been a mixture of secondary school and English college. When we destroy that mixture, when we assign to the secondary school what belongs to the secondary school, then we lose the reason for the four years' course in the American college.

Are there not some fundamental considerations of a permanent character which ought to determine this artificial division between different institutions of the whole period of education? Are there not some fixed points of division which depend on the nature of man and of human society, and may be scientifically determined? It seems to me that there are two such points. In the first place, I cannot think that boys on the average — I know there are exceptions — are fit for the freedom which they will have in any American college — I do not care to what denomination it may belong, or in what village or city it may be situated — before they are eighteen years of age; and, further, I believe that righteous and judicious school discipline is good for a boy till he is eighteen years of age. I call that age, therefore, a reasonably fixed point. Making plenty of exceptions for boys of unusual maturity or sturdiness, I maintain that, as a rule, boys should not leave the home or the school where they have had careful supervision, and go to

college at sixteen or seventeen, and that we ought to aim at the division point of eighteen years in the interests of the boys, the schools, and the colleges alike. This point seems to me to be determined by valid biological and ethical considerations.

Is there not another determinable point? I find another at the outer end of education—at the entrance into the vocation, at the first earning of a livelihood, at the assumption by the young man of the responsibility of supporting a family, and of taking independent action by himself, out of leading strings, and without incessant guidance. As a matter of fact, the graduates of Harvard, Yale, and many other American colleges and professional schools, are getting into life in that sense at about twenty-seven years of age. That is two or three years too late for young men to assume the responsibilities of supporting a family and taking up independent work in business or a profession. The undue postponement of marriage is in itself a very serious evil. Those of us who are old enough remember how astonished we were when General Scott, in 1861, wrote a letter saying that lieutenants had better not be over twenty-two years of age. I remember my own astonishment when I read that a boy of twenty-two should be fit to command a hundred men. But he was right, absolutely right, and the experience of the war showed that not only could men be lieutenants at twenty-two but they could be generals at twenty-three, twenty-four, and twenty-five, to the great advantage of the country. We have made a fundamental mistake, I believe, in American society, in that we bring our most highly trained young men too late into active life and to the responsibilities of the professions and of business. Professor Seymour has said that the American community was not demanding young men. If that be true, so much the worse for the American community. This unnatural retardation is bad for the American community, not only because it loses the efficient services of young men who have already come to their period of greatest activity, alertness, and vigor, but because the young men themselves miss, till later than is best, the training which comes with responsibility, and only with responsibility. There is an important moral issue here. I have heard gentlemen in college faculties talk as if the college were the only place in which a young man could ever get a really valuable training. But after college what? The young graduate is going out into the world; he is going to be a lawyer, or a physician, or a business man, or an engineer, and will he never have in those callings any opportunities of

obtaining a valuable training? In my opinion there is no mental and moral training for well educated youth like the training of responsibility in real life; and when we keep our young men from that highest training till they are twenty-seven or twenty-eight years old we do them deep injury. It is the artificial organization of American education which works that injury. This organization is comparatively recent.

I took the names of two hundred and fifty fairly eminent graduates of Harvard University, who have, as it were, represented Harvard University in the community from about 1875 to 1895, who in their respective communities have been what we call leading men in all the professions. I picked them out because they were such men. Of course, they graduated from fifty to thirty years ago. I took their ages out of the college records, and found that those men entered real life at twenty-two, twenty-three, and twenty-four years of age. If I were to name them here, you would perceive at once that they were, as I have said, representative Harvard men, who have made themselves conspicuously useful in the world. So this evil, this evil of bringing our young men too late into life, is a recent one. It has come about very naturally through the efforts of schools and colleges to extend and improve their work. They have succeeded so well that it is now time to compress into fewer years the preliminary training in liberal arts which school and college together provide.

One other point I should be glad to touch for a moment. Of course, at Harvard we have been discussing this subject with the necessities of the university before us, and we have been trying to discern what would be for the interests of Harvard University, as well as for the interest of the young men who come thither; but, to my mind, the question is one of universal interest to all American colleges, and particularly it is of interest to the small college, to the country college, to the college which can do a solid, faithful, three years' work on top of good secondary school work finished at eighteen. I believe that as this discussion goes on it will be seen more and more that the colleges have a common interest in this change, and that ultimately they will unite in it.

I have already mentioned that the English college of today requires for the B.A. degree a residence of only fractions of three years. The American college has so different a function from that of the English college that we might be excused for demanding even a

shorter residence than the English. Oxford and Cambridge are the resort of young men whose fathers were all educated themselves and are all well to do. We want to have the resort to the American colleges absolutely popular, derived from all classes and conditions in American society. The example of the English college should have the greater weight with us, because we want our colleges to be more popular institutions than the English. And here I found myself in disagreement with one of Professor Seymour's remarks. I should find it impossible to indicate by any general description bodies of American youth who had better not go to college; and, even with regard to individuals, I think that the more experience college administrators have in advising parents about sending their children to college, or in selecting the young people who had better go to college or had better not go to college, the more they doubt whether human wisdom is sufficient for those things. At any rate, I think it would be extremely rash to make any arrangements for an American college which are really based on the notion that it was desirable to keep out of college certain classes of American youth. It seems to me that all the structural arrangements of the American college ought to be made on the principle that the college training is to be accessible to every capable young American who is prepared to undergo the labors and sacrifices necessary to win it.

DR. WILLIAM GALLAGHER: This process has been going on at Harvard College for some years, I understand, the process by which young men practically graduate at the end of three years, taking a degree a year later, spending one year in the professional schools. Those who are opposed to the three-year plan say that this represents simply a student's cramming, pushing through the courses with the minimum of attainment. Those who, on the other hand, advocate the three-year plan, say it means that these are young men who are able to do as much in three years, certainly as the average students, perhaps as much as the best students, do in four. I should like to ask whether any data have been collected that would give us an idea as to the actual working of the plan in Harvard University in that respect, what these classes of students seem to represent.

PRESIDENT CHARLES W. ELIOT: I do not think any careful statistics can be furnished on that subject. When we first entered on this plan students who were not very good scholars were not allowed to try to get the B.A. in three years. Indeed the committee of supervision

demand of aspirants the grade which we call *magna cum laude* at graduation; so that in the earlier years all the men who attempted this task were men of unusual capacity; but gradually that standard has been lowered, I should say, and there is now less active supervision of the men who set out to do the four years' work in three. Nevertheless the men that attempt it are more ambitious than the average, or they are prompted by some motive which presses them forward in their education—the pecuniary motive for example. They see that they can save \$450 by doing four years' work in three; and they have to earn all their money, or it is hard for the family to supply that money, so that they feel the pecuniary motive strongly. I remember hearing the dean say one day that it was rather surprising how many Jews were going through in three years. He thought they showed a keener sense than the Gentiles of their personal interest in the abridgement of the course. But we have not made any definite compilation of statistics on this matter.

I noticed in the faculty meeting this week that thirty men were simultaneously given leave of absence this year who would otherwise have been in our senior class. At the end of the junior year they had finished, or very nearly finished, the four years' course. They can go into the professional schools, if they choose, or into business. They will get their degrees next June, although they have leave of absence this year. So the method is actually in use at Cambridge and we are learning how it works. We have found out already that it is not a good plan for a youth who has not finished his college work by some substantial quantity, like two full courses for example, that is, two courses of three hours a week throughout the year, to get leave of absence, and go into a professional school. He will not do as well in the professional school as if he had actually completed his college course. But when the young men have really finished the requirements for the A.B. degree, they can do just as well in the professional school as they would have done, in all probability, if they had stayed four years in college. Some of these men who obtain leave of absence enter the graduate school; and they feel, and I am sure I feel, that their fourth year is better spent in the graduate school than it would have been spent as a fourth year in Harvard College. I do not see how anybody can doubt that. The three years' proposition is not a proposition to diminish scholarly attainment; not at all. The good scholars in language, literature, history, philosophy, or science will

spend their time saved in college, first in the graduate school, and then in some apprenticeship to an older scholar or an experienced teacher. There is nothing in this proposition which tends towards the reduction of scholarship. Quite the contrary, as I believe ; because I have the strongest faith that the real scholar is better off in the graduate school or the professional school than he is in Harvard College. If he is going to invest a definite time, like four, five, or six years in his education, let him by all means invest as large a proportion of it as possible in the higher department.

After further discussion on motion, the association adjourned.

RAY GREENE HULING, *Secretary*.

CAMBRIDGE, MASS.

[It is to be regretted that limitation of space has compelled the omission of a part of the valuable discussions of this meeting. These will appear in full, however, in the Proceedings.—ED. SCHOOL REVIEW.]

OUTLOOK NOTES

THE schools are suffering more today from bigness than from all other evils put together. This bigness shows itself in classes that are unnatural monsters. How many

LARGE CLASSES high schools in the country have beginning classes of sixty and seventy, and even more?

Teaching under such circumstances is bound to degenerate immediately into keeping school. The so-called teacher can be little more than a police officer, and does very well to maintain a fair degree of discipline. If parents fairly understood the situation, those who could possibly afford anything else would never allow their children to attend public schools where the classes were above thirty-five in number. The ideal class in high school studies is undoubtedly twenty-five—for lecturing to large classes has no place either in the theory or practice of secondary teaching. Small classes are, really, the Gibraltar of the private school. In that respect the worst private academy is apt to be better than the best public schools. Teaching and learning are, after all, influences exerted and received very largely as matters of personal contact, and will be so long as spirit and not matter dominates the world. Perhaps the worst feature about the evil of large classes is the fact that the mischief wrought thereby is of so intangible a kind that the public is very slow to recognize it. If there are not seats enough for all the pupils there is a public protest at once; if there is no water for pupils to drink the parents very quickly become interested. But if a bright and conscientious teacher has so many pupils that any real teaching is impossible, the tragedy of the situation is seldom noted outside the walls of the school room. The good public needs much educating along this line.

C. H. T.

BOOK REVIEWS

Latin Manuscripts. By HAROLD W. JOHNSON. Chicago: Scott, Foresman & Co.

THIS handsome volume of the publisher's "Intercollegiate Latin Series" includes, within its 135 large (quarto) pages, matter of very great interest and value to all teachers and students of Latin.

It is the outgrowth of Professor Johnson's lectures to a teacher's class on "Paleography, Hermeneutics, and Criticism," given at the Summer School of Indiana University, and is a response to the request that a manual might be published answering the more common questions about those subjects.

Professor Johnson is to be congratulated upon finding a field so interesting and fruitful, and so entirely unoccupied by any book covering the whole field in a broad general way, and at all well adapted for use in our high schools and colleges as this book certainly is.

The table of contents entire would furnish the best descriptive review, and of this I give the greater part.

The work is divided into three principal divisions which treat respectively of "The History of the Manuscripts," "The Science of Paleography," and "The Science of Criticism."

The first division treats, under "The Making of the Manuscripts": Writing materials and instruments, form of books, rolls, codices, their manufacture and preservation; under "The Publication and Distribution of Books": Author's copyright, plays, commercial and uncommercial publications, process and rapidity of publication, cost, correctors; under "The Transmission of Books": Period covered, public libraries, schools and universities, scholia, glosses, lost works, dark ages, revival of learning, invention of printing, Editiones principes, ancient manuscripts; under "The Keeping of Manuscripts": Care, naming, descriptions, important libraries, index to collections, symbols, collation, uncollated, manuscripts, critical editions.

Under the second division comes "Styles of Writing": Uses of paleography, ancient forms of letters, national hands, the majuscules,

capitals, square, uncials, half uncials, minuscules, abbreviations, these are all illustrated by specimens; "Errors of the Scribes": Faculty copies; classification of errors—unavoidable, intentional, accidental; errors of the eye—dittography, lipography, skipping; errors of the memory—transposition, substitution, omissions and additions; errors of the judgment—wrong divisions of words, wrong punctuation, interpolation.

The third division considers "Methods and Terminology of Criticism": Sub-divisions of the science, the critical doubt, causes of doubt, kinds of criticism, criterion; "Textual Criticism": Apparatus criticus—manuscripts, examination of them, stemmata and their uses, ancient translations and commentaries, citations, imitations; use of the apparatus—relative worth of manuscripts, test of worth, conjectural emendation and its limits; "Individual Criticism": Purpose; external evidence—MSS., ancient writers; internal evidence—historical, individuality, language and style, forgeries, tests, illustration of proof.

At the close of the book is a description of its sixteen handsome plates, facsimiles of one or more manuscripts of Cæsar, Catullus, Cicero, Horace, Sallust, Terence, Vergil; also a reduced specimen of Livy. These specimens are selected rather to illustrate the styles of writing described than to represent the *apparatus criticus* of the authors.

The excellence of the paper, print, and binding, the division into numbered paragraphs with subject in capitals, the illustrations, besides the facsimile plates, and a good index, these combine to make a handsome and useful volume. One hesitates to say concerning this book, as readable and valuable, that every library should have a copy, and that it should be in the hands of every teacher, something stronger than this worn-out expression is needed. One may well say that every teacher, in secondary school and college, who wishes to awaken and deepen interest in the Latin work cannot afford to be without the book.

WM. M. ABER.

UNIVERSITY OF MONTANA.

NOTES

THE North Central Association of Colleges and Preparatory Schools will hold its next meeting in the Easter vacation, 1898, at the Auditorium Hotel, Chicago.

THE third meeting of the Hudson River Schoolmasters' Club convened at Albany, N. Y., October 29 and 30. Addresses were delivered by President Wm. J. Tucker, of Dartmouth College, Inspector Charles F. Wheelock, of the Regents' Office and others. Principal O. D. Robinson, of the Albany High School, is president of the Club.

THE *Magazine of Current History* formerly published by Garretson, Cox & Co., of Buffalo, has been transferred to and will hereafter be published by the New England Publishing Company of Boston. The editorial department remains in the hands of Dr. Alfred S. Johnson who will continue to give the Quarterly his undivided attention.

DR. JAMES E. RUSSELL, well known to the readers of the SCHOOL REVIEW, has accepted a call to the chair of Psychology and Pedagogy in the Teachers' College of New York City. He has made for himself a place in the educational work of Colorado which will not be easily filled, while his standing in the country at large is such that he brings great additional strength to the Teachers' College.

PROFESSOR PAUL H. HANUS, who has been doing such successful pioneer work in the Department of Pedagogy at Harvard, is this year taking a well deserved leave of absence and spending the time in Europe. From a recent letter we learn that he has just completed a somewhat extensive inspection of English schools, as a result of which he says, "we think our education is in confusion, but English education is chaos."

THE Associated Academic Principals, of the State of New York, will meet at Syracuse, December 28th to 30th. It is seldom that a better programme is presented for a teachers' meeting than the one prepared for this meeting of the Academic Principals. It shows evidence of great care in its preparation, as well as wide acquaintance with educational problems on the part of the officers who prepared it. For its excellence most credit is doubtless due to the President of the association, Oscar D. Robinson, of the Albany High School.

THE Kingsley Laboratories of Worcester Academy were dedicated October 30th. The dedication programme is a most interesting one, the addresses being as follows: "The Present Tendency of Secondary Education," President Charles W. Eliot, LL.D.; "The Relation of the Secondary School to the Higher Schools of Science," President T. C. Mendenhall, Ph.D.; "The Relation of the Laboratory to Science Teaching," President G. Stanley Hall, Ph.D., LL.D.

IN answer to a number of inquiries it may be stated that no published report of the outcome of the New England Conference held in New York last May has as yet been issued. There will be an adjourned meeting in Philadelphia, December 28th to 30th. The report will not be issued until after that meeting. The interest in the matter of the report is unusually great. There are several puzzling questions before the conference which demand extended consideration.

THE October number of the *Atlantic Monthly* is notable for concluding the fortieth volume of the magazine which has been during all its existence an honor to American literature. Of recent years the *Atlantic Monthly* has been devoting special attention to educational subjects. The October issue contains an article on the "Training of Teachers, the Old View of Childhood and the New," by Frederick Burke of Clark University. While the article does not present much that is new to students of Pedagogy it does describe a somewhat new practical use of child-study work in normal school training in a way that will be suggestive for other schools.

RECENT *Centralizing Tendencies in State Educational Administration* by William Clarence Webster (in *Studies in History, Economics, and Public Law*, No. 2, Vol. VIII, edited by the Faculty of Political Science of Columbia University) is a document of especial interest to educators. There is here summarized the most important legislation of recent years concerning school matters. The author starts out to prove that we have been passing from a state of decentralization in state educational administration to a state of quite thorough centralization, a process which he believes to be both wholesome and safe. Such centralization has led to increased administrative efficiency and is in his judgment destined to become more and more pronounced. The study will form a very convenient handbook of reference for the preparation of educational addresses for various occasions.

NEW PUBLICATIONS

- Annual Report of Fort Smith Public Schools for 1896-7, and Course of Study for the Year 1897-8. 6 x 8½ in.; pp. 178. Press of Thrash-Lick Printing Co., Fort Smith, Ark.
- The Ancient Mariner. By Samuel T. Coleridge. Edited, with Introduction and Notes, by Andrew J. George, M.A., Department of English, High School, Newton, Mass. 4½ x 6¾ in.; pp. xxxiv+33. Price 35 cents. D. C. Heath & Co.
- De Quincey's Flight of a Tartar Tribe, with Introduction and Notes, by George Armstrong Wauchope, M.A., Ph.D., Professor of English in the University of Iowa. 4½ x 6¾ in.; pp. xx+91. Price 30 cents. D. C. Heath & Co.
- Enoch Arden and the Two Locksley Halls. By Alfred Tennyson. Edited by Calvin S. Brown. 4½ x 6¾ in.; pp. xvii+152. Price 35 cent. D. C. Heath & Co.
- Cymbeline. Edited by Alfred J. Wyatt, M.A., Sometime Scholar of Christ's College, Cambridge Examiner in English at Victoria University. 4½ x 6¾ in.; pp. xxviii+180. Price 40 cents. D. C. Heath & Co.
- The Tempest. Edited by Frederick S. Boas, M.A., Sometime Exhibitioner of Balliol College, Oxford. 4½ x 6¾ in.; pp. xxxi+127. D. C. Heath & Co.
- Physical Experiments. A Manual and Note Book. Containing the laboratory exercises required for admission to Harvard University, and many other exercises, and adapted to accompany any text-book on Physics. By Alfred Gage, Ph.D., Instructor in Physics in the English High School, Boston. 5½ x 8¼ in.; pp. ix+97. Ginn & Co.
- Shakespeare Note-Book. Designed for Advanced Courses in Colleges and Universities, Shakespeare Clubs and Critical Readers. By Charles W. Kent, Ph.D., Linden Kent Memorial School of English Literature, University of Virginia. 9½ x 11½ in. Price 70 cents. Ginn & Co.
- An Introductory Course in Quantitative Chemical Analysis. By Percy Norton Evans Ph.D., Associate Professor of Chemistry, Purdue University. 4½ x 6½ in.; pp. iv+81. Price 55 cents. Ginn & Co.
- The Elements of Geometry. By Henry W. Keigwin, Teacher in the Norwich Free Academy. 5 x 7½ in.; pp. iv+227. Price \$1.00. Henry Holt & Co.
- Uncle Sam's Secrets. A Story of National Affairs for the Youth of the Nation. By Oscar Phelps Austin. 5 x 7¼ in.; pp. xxiii+344. Price 75 cents. D. Appleton & Co.
- Curious Homes and their Tenants. By James Carter Beard. 5 x 7¼ in.; pp. xxiii+275. Price 65 cents. D. Appleton & Co.
- A Working System of Child Study for Schools. By Maximilian P. E. Groszmann, Ph.D., Late Superintendent of the Schools of Ethical Culture, New York. 5 x 7 in.; pp. vi+70. Price 50 cents. C. W. Bardeen.
- The Common School and the New Education. What must we do to make our public school the true school? By Maximilian P. E. Groszmann, Ph.D., Superintendent of the Workingman's School, New York. 4¼ x 6 in.; pp. vi+46. Price 25 cents. C. W. Bardeen.

- The Hall of Shells. By Mrs. A. S. Hardy. - 5 x 7 $\frac{1}{4}$ in.; pp. xii+176. Price 60 cents. D. Appleton & Co.
- How to Keep Well. A text-book of health for use in the lower grades of schools with special reference to the effects of alcoholic drinks, tobacco, and other narcotics on the bodily life. By Albert F. Blaisdell, M.D. Revised Edition. 5 x 6 $\frac{3}{4}$ in.; pp. vi+250. Ginn & Co.
- The Kindergarten System. Its Origin and Development as seen in the Life of Friedrich Froebel. Translated and Adapted from the Work of Alexander Bruno Hanschmann for the use of English Kindergarten Students by Fanny Franks. With an Appendix on "The Education of Man." 5 $\frac{1}{4}$ x 7 $\frac{1}{4}$ in.; pp. xvi+253. Price \$2.00. C. W. Bardeen.
- Elements of Comparative Zoölogy, By J. S. Kingsley, S.D., Professor of Zoölogy in Tufts College. 5 x 7 $\frac{1}{2}$ in.; pp. vii+357. Price \$1.20. Henry Holt & Co.
- 'Round the Year in Myth and Song. By Florence Holbrook. 5 $\frac{3}{4}$ x 7 $\frac{1}{2}$ in.; pp. 200. Price 60 cents. American Book Co.
- The Story of Japan. By R. Van Bergen, M.A. 5 $\frac{1}{4}$ x 7 $\frac{1}{2}$ in.; pp. 294. Price \$1.00. American Book Co.
- The American Word Book. By Calvin Patterson, A.M., Principal of Girls' High School, Brooklyn. 5 x 7 $\frac{1}{2}$ in.; pp. 192. Price 25 cents. American Book Co.
- An Outline Guide to the Study of English Lyric Poetry. By Frederic Ives Carpenter. 5 $\frac{1}{2}$ x 7 $\frac{3}{4}$ in.; pp. 54. University of Chicago, 1897.
- Publications of the American Academy of Political and Social Science, Philadelphia.
- No. 206. The Shiftless and Floating City Population. By Edward T. Devine, Ph.D., Secretary of the Charity Organization Society of New York City. Pp. 16. Price 15 cents.
- No. 207. The Problems of Political Science. By Leo S. Rowe, Ph.D., Assistant Professor of Political Science in the University of Pennsylvania. Price 25 cents.
- No. 208. Administrative Centralization and Decentralization in England. By James T. Young, Ph.D. Price 25 cents.
- No. 209. The Philosophical Basis of Economics: A Word to the Sociologists. By Sidney Sherwood, Ph.D., Johns Hopkins University. Price 35 cents.
- No. 210. Current Transportation Topics. II. Recent Supreme Court Decisions. By Emory R. Johnson, Ph.D., University of Pennsylvania. Pp. 103. Price 15 cents.
- The Last Cruise of the Mohawk. A Boy's Adventures in the Navy in the War of the Rebellion. By W. J. Henderson, Illustrated by Harry Edwards. 4 $\frac{1}{4}$ x 7 $\frac{1}{2}$ in.; pp. x+278. Price \$1.25. Charles Scribner's Sons.
- Chautauqua Reading Circle Literature. Meadville, Pa. Flood & Vincent. Size of each book, 5 $\frac{1}{2}$ x 8 in.
- Imperial Germany. A Critical Study of Fact and Character. By Sidney Whitman, F.R.G.S. Pp. 330.
- The Social Spirit in America, By C. R. Henderson, Associate Professor of Sociology in the University of Chicago. Pp. 350.
- A Short History of Mediæval Europe. By Oliver J. Thatcher, Ph.D. Pp. 309.
- A Three-year Preparatory Course in French. Covering all the requirements for admission to universities, colleges, and schools of science. By Charles F. Kroeh, A.M., Professor of Languages in Stevens Institute of Technology. First Year. 5 $\frac{1}{4}$ x 7 $\frac{1}{2}$ in.; pp. viii+260. Price 65 cents. The Macmillan Co.

- Education from a Publisher's Standpoint. An address delivered before the National Educational Association, Milwaukee, Wis., July 7, 1897. By Gilman H. Tucker, Secretary of the American Book Company. 6 x 9 in.; pp. 23.
- The Science of Discourse. A Rhetoric for High Schools and Colleges. By Arnold Tompkins, Professor of Pedagogy in the University of Illinois. 5 x 7½ in.; pp. xiv+353. Ginn & Co.
- Der Bibliothekar. By Gustav von Moser. Edited with an Introduction and Notes by Benjamin W. Wells, Ph.D., Professor of Modern Languages, University of the South. 5 x 7¼ in.; pp. vi+138. D. C. Heath & Co.
- Science Readers by Vincent T. Murché. Revised and adapted for use in schools, with a preface by Mrs. L. L. W. Wilson, Ph.D., Philadelphia Normal School. Books I-IV. Size of each 5 x 7 in.; pp. in Book I 125; price 25 cents.; pp. in Book II, 128; price 25 cents.; pp. in Book III, 176; price 40 cents.; pp. in Book IV, 216; price 40 cents. The Macmillan Co.
- Syllabus of Lectures on European History. By Andrew Stephenson, Ph.D., Professor of History in De Pauw University. 6 x 9 in.; pp. xxi+343. Price \$1.50. The Inland Publishing Co.
- Preparatory Questions on S. R. Gardner's Student's History of England. By R. Somervell, M.A., Assistant Master of Harrow School. 5 x 7½ in.; pp. 56. Longmans, Green & Co.
- Field Work in Nature Study. Second edition, enlarged and illustrated. A hand-book for teachers and pupils. By Wilbur S. Jackman, A.B., Teacher of Natural Science, Chicago Normal School. 5¼ x 7½ in.; pp. iv+129. A. Flanagan.
- Report of the Commissioner of Education for the Year 1895-6. Vol. I. Containing Part 1. 6 x 9¼ in.; pp. lxxv+965. Washington: Government Printing Office.
- Talks on the Study of Literature. By Arlo Bates. 5 x 7¼ in.; pp. 260. Price \$1.50. Houghton, Mifflin & Co.
- American Comprehensive Arithmetic. By M. A. Bailey, A.M., Professor of Mathematics in the Kansas State Normal School. 5¼ x 7 in.; pp. 314. Price 65 cents. American Book Company.
- Natural Course in Music. The Advanced Music Reader. By Frederic H. Ripley, Principal of the Charles Summer School, Boston, and Thomas Tapper, Instructor in Musical Composition and Theory, Examiner in Theory in the American College of Musicians. 7½ x 9½ in.; pp. 320. Price \$1. American Book Company.
- A Laboratory Course in Wood-turning. By Michael Joseph Golden, M.E., Professor of Practical Mechanics, Purdue University. 6 x 9 in.; pp. 69. Harper & Brothers.
- An Elementary French Grammar. By Chas. P. DuCroquet, 5 x 7½ in.; pp. iv+259. William R. Jenkins.
- American Orations. Studies in American Political History. Edited with introductions by Alexander Johnston, late Professor of Jurisprudence and Political Economy in the College of New Jersey. Re-edited with historical and textual notes by James Albert Woodburn, Professor of American History and Politics in Indiana University. 5 x 7¼ in.; pp. vii+432. G. P. Putnam's Sons.

